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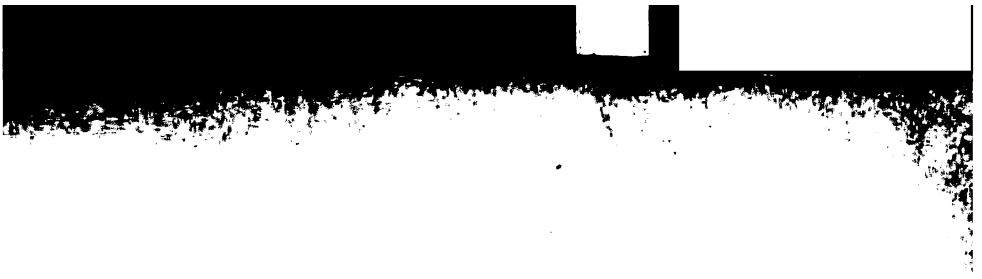

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OF THE

HOUSE OF REPRESENTATIVES

FOR THE

SECOND SESSION OF THE FIFTY-FIRST CONGRESS.

1890-'91.

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INDEX TO HOUSE EXECUTIVE DOCUMENTS.

CONTENTS OF VOLUMES.

Vol. 1..FOREIGN RELATIONS: No. 1, pt. 1.
Vol. 2..WAR: No. 1, pt. 2, v. 1.
Vol. 3.. ENGINEERS: No. 1, pt. 2, v. 2, pt. 1.
Vol. 4.. ENGINEERS: No. 1, pt. 2, v. 2, pt. 2.
Vol. 5.. ENGINEERS: No. 1, pt. 2, v. 2, pt. 3.
Vol. 6.. ENGINEERS: No. 1, pt. 2, v. 2, pt. 4.
Vol. 7.. ORDNANCE: No. 1, pt. 2, v. 3.
Vol. 8.. SIGNAL OFFICER: No. 1, pt. 2, v. 4.
Vol. 9..NAVY: No. 1, pt. 3.
Vol. 10..POSTMASTER-GENERAL: No. 1, pt. 4.
Vol. 11..INTERIOR: No. 1, pt. 5, v. 1.
Vol. 12.. No. 1, pt. 5, v. 2.
Vol. 13.. No. 1, pt. 5, v. 3.
Vol. 14.. No. 1, pt. 5, v. 4, pt. 1.
Vol. 15.. No. 1, pt. 5, v. 4, pt. 2.
Vol. 16.. No. 1, pt. 5, v. 5.
Vol. 17..AGRICULTURE: No. 1, pt. 6.
Vol. 18..DISTRICT OF COLUMBIA: No. 1, pt. 7.
Vol. 19..No. 2, Finance Report.
Vol. 20..No. 3, pts. 1 and 2.
Vol. 21..No. 1, part 8, and Nos. 4 and 7.
Vol. 22..Nos. 5 and 167.
Vol. 23..No. 6, pt. 1.
Vol. 24..No. 6, pt. 2.
Vol. 25..Nos. 8 to 47 inclusive, except No. 45.
Vol. 26..No. 45, pt. 1.
Vol. 27..No. 45, pt. 2.
Vol. 28..Nos. 48 to 128 inclusive, except Nos. 70, 80, 90, and 106, pt. 3.
Vol. 29..No. 70.
Vol. 30..No. 80.
Vol. 31..No. 90.
Vol. 32..106, pt. 3.
Vol. 33..Nos. 129 to 209 inclusive, except Nos. 165 and 167.
Vol. 34..No. 165.
Vol. 36..Nos. 210 to 295 inclusive, except Nos. 265 and 287.
Vol. 37..No. 265.
Vol. 38..No. 287.

INDEX TO DOCUMENTS

Subject.	No.	Vol.
A.		
Absecon, New Jersey. Letter recommending additional accommodations to keepers of	53	28
Agriculture, Secretary of,		
Communications from:		
Agricultural Department, expenditures in the	35	25
Annual Report of	1	17
Silk, reports relating to, for 1890	203	33
Alabama River, Alabama, report on examination of	140	33
Alaska, transportation of witnesses in	194	33
Allouez Bay and Nemadji River, Wisconsin, report on examination of	40	25
Alsea Bay and River, Oregon, report on examination of	85	28
Altamaha River, Georgia, report on examination of	283	36
Alviso Harbor and Creek, California, report of examination of	16	25
American Channel, Detroit River, report on examination of	43	25
Apache Indians, appropriation for	41	25
Appropriations:		
Estimates of the Secretary of the Treasury for	5	22
Estimates of Secretary of Treasury of deficiencies	167	22
Estimates of deficiency for payment of Army and Navy pensions	57	28
Estimates of deficiency for public printing	33	25
Arizona, letter and accompanying draft of bill for land for Indian school purposes in	216	36
Army:		
Brevet rank, letter recommending change of existing laws relative to	206	33
Quartermaster's Department, deficiencies in the	224	36
Retired officers in the civil service, report relating to	282	36
Subsistence, deficiencies for	230	36
Assateague, Virginia, letters recommending additional accommodations for keepers of	53	28

Subject.	No.	Vol.
Atlanta, Ga., letter relative to heating apparatus, etc., for public building at	211	36
Attorney-General, communications from:		
Annual report of	7	21
Judgments, supplemental report of, rendered against the United States.	141 251	33 36
Auburn, N. Y., appropriation for public building at	228	36
B.		
Barnegat, New Jersey, Letter recommending additional accommodations to keepers of	53	28
Barnegat and Great Egg Harbor Bays, New Jersey, report on examination of sound between	42	25
Barrundia, Gen. J. Martin, letter of the President relating to the killing of	51	28
Bay Ridge Channel, New York Harbor, report on examination of	60	28
Bayou Black, Louisiana, report of examination of	113 125	28 28
Bayou Castor, Louisiana, report on examination of	185	33
Bayou Cocodrie, Louisiana, report on survey of	114	28
Bayou Des Glaises, Louisiana, report on examination of	119	28
Bayou Teche, Louisiana, report on examination of	280	36
Bayous Tigre and Chevreuil, Louisiana, report on examination of	182	33
Bayou Terre Bonne, Louisiana, report on examination of	110	28
Bayou Vermillion, Louisiana, report on examination of	273	36
Benicia Arsenal, Benicia, Cal., estimate of appropriation for	83	28
Berwick's Bay, Louisiana, report on examination of	198	33
Bethlehem Iron Company, report on ores used by the, in the manufacture of steel	294	36
Big Barren River, Kentucky, report on examination of	15	28
Binghamton, N. Y., appropriation for public building at	272	36
Black River, South Carolina, report on survey of	286	36
Blue Hill, Me., report on examination of harbor at	19	25
Boat or Number Four Channel, Florida, report of examination of	205	33
Boquet River, New York, report on examination of	30	25
Bounty on sugar, estimates of appropriation relating to	186	33
Brooks, S. H., relative to release of	233	36
Buffalo, N. Y., communication relative to site for public building at	213	36
Bureau of Engraving and Printing:		
Addition to the site of the building for the	254	36
Disbursing clerk for the	94	28
Burial of indigent soldiers, appropriation for	127	28
Buttermilk and Gowanus Bay Channels, New York Harbor, report on examination of	26	25
C.		
California, mining débris of	267	36
Clallam County, Wash., in relation to donation of proceeds of certain lands to	252	36
Cane River, Louisiana, report on examination of	184	33
Cape May City, N. J., report on examination for breakwater at	39	25
Cape May to Great Bay, N. J., report on examination of thoroughfare, from	50	28
Carlisle, Pa., additional estimate for Indian school at	220	36
Champlin's Creek, New York, report on examination of	66	28
Chattahoochee River, Georgia and Alabama, report on examination of	134	33
Cheyenne River Agency, S. Dak., estimate for boarding school building at	122	33
Chickahominy River, Virginia, report on examination of	217	36
Chickamauga and Chattanooga National Park Commission, report of the, relative to appropriations	98	28
Chief of Engineers:		3
Annual report of	1	
Annual report of	1	4
Annual report of	1	5
Annual report of	1	6

Subject.	No.	Vol.
Chief of Ordnance, annual report of	1	7
Chief of Bureau of Statistics, report on foreign commerce and navigation, etc	6	23
Cholera, report on, in Europe	121	28
Civilian engineers, letter of Secretary of War, relating to employed	143	33
Civil Service Commission, Annual Report of the.....Part 8	1	21
Claims:		
Appropriation to pay the, of certain merchants of Austria-Hungary, for goods sent to the New Orleans Exposition	189	33
Deficiencies for defense of, against the United States	227	36
List of, allowed by accounting officers of the Treasury	171	33
List of, allowed since January 15, 1890	248	36
List of, allowed and paid from the indefinite appropriations of the act of April 4, 1890	249	36
Coast and Geodetic Survey:		
Annual report for 1890	80	30
Expenditures of the, for 1890	278	36
Collecting revenue from customs, letter recommending permanent appropriation for the	82	28
Colorado River, Arizona, report on survey of	18	25
Colorado River, Texas, report of examination of	138	33
Commerce and navigation, report of Chief of Bureau of Statistics on foreign	6	24
Commercial relations, 1888-'89	70	29
Commissioner of Education, annual report of	1	14 and 15
Commissioner of Internal Revenue, annual report of	4	21
Commissioner of Labor:		
Annual report of	1	16
Sixth Annual Report	265	37
Commissioner of Patents, annual report of	1	13
Comptroller of Currency, annual report of	3	20
Connecticut River, report on examination of, from Long Island Sound to Hartford, etc	86	28
Consular officers, special reports of, on irrigation, canals, and ports, etc	45	26 and 27
Consulate-general at London, appropriation for archives of the	137	33
Contracts, report of, entered into by the War Department	91	28
Corsica Shoal, Michigan, report on examination of	225	36
Coulson, Sewell, claim of	214	36
Court of Claims, judgments rendered by the	234	36
Courts of the United States, expenses of deficiencies for	229 and 259	36
New Mexico, additional associate justice of	76	28
Creek Indians, fulfilling treaties with	238	36
Current River, Missouri, report on examination of	157	33
Customs duties, refunds of	44	25
Customs revenue, expenses of collecting	247	36
Customs service, official emoluments of officers in the	285	36
Payments to informers and seizing officers	12	25
Tariffs, international bureau for the publication of	242	36
D.		
Deep, Skamokowa and Crooked Rivers, Washington, report on examination of	24	25
Department of Agriculture, expenditures in the	35	25
Devils Lake, N. Dak., report on examination of	293	36
Director of the Geological Survey, annual report of	1	14 and 15
District of Columbia:		
Annual report of the Commissioners of the	1	18
Deficiency in appropriations for	244	36
Deficiencies for support of public schools in the	257	36
Double Bayou, Texas, report on examination of	117	33
Drum Inlet, North Carolina, report on survey of	164	33
D'Wamish and Black Rivers, Washington, report on examination of	27	25

Subject.	No.	Vol.
E.		
Electric lights, letter from Secretary of the Treasury for, in certain public buildings	166	33
Eleventh Census, letter of the Superintendent of the, giving complete returns of the population of the United States on the 1st day of June, 1890	9	25
Elk River, West Virginia, report on examination of	103	28
Ellis Island, appropriation for projected buildings on	146	28
Engineers, annual report of, in four parts, (vol. 2, part 1)	1	3
(vol. 2, part 2)	1	4
(vol. 2, part 3)	1	5
(vol. 2, part 4)	1	6
F.		
Foreign commerce and navigation, annual report of the Chief of the Bureau of Statistics on the, and immigration and tonnage of the United States	6	23, 24
Foreign relations, annual report of the President	1	1
Fort Canby to Ilwaco, letter of Secretary of War recommending consideration of bill for construction of road from	13	25
Fox River, Wisconsin, letter of Secretary of War submitting draft of rules and regulations for the navigation and use of locks and canals on the	152	33
G.		
Government Hospital for the Insane, additional farm land for the	126	28
Government Printing Office, removal and storage of certain material of the	236	36
Great Lakes, report of examination for ship channel between the	207	33
Gun factories and steel forgings, report relating to, for high-power guns	209	33
Gunter's Creek, Alabama, report of examination of	132	33
H.		
Hamilton, Ill., report on examination of slough at	72	28
Hays, Thomas G., claim of	261	36
Hudson, Wis., report on examination of harbor at	268	36
I.		
Immigrant fund, report relating to	232	36
Import duties letter requesting appropriation to pay certain, used in the establishment of light-houses	99	28
Indian Department, tabular statements of disbursements for 1890	8	25
Indian depredation claims, list of	277	36
Indian River, Florida, report on survey of	168	33
Indian schools, amended estimates of appropriations for certain	222	36
Indian school land, letter submitting draft of bill for, in Arizona	216	36
Indian school superintendent, estimate for traveling expenses of for 1890	219	36
Indian service, supplemental estimates for the	131	33
Indians, additional subsistence for	139	33
Indigent soldiers, appropriation for burial of	127	28
Inner Bay, New York, report on examination of, near Saranac River	22	25
Inspector-General, letter relative to clerks and messengers for the office of the	199	33
Interior Department:		
Expenditure of contingent fund	130	33
Report of employés below a fair standard of efficiency	58	28
Public documents, report relating to the receipt, distribution, and sale of	128	28

Subject.	No.	Vol.
Internal-revenue stamps, appropriation for purchase of paper for	270	36
International American Conference, printing and distributing reports of the	250	36
International storm signals, report of a copy of draft of a bill pertaining to	288	36
Iron and steel, tests of, for 1890	165	34
Irrigation, etc.:		
Special reports of consular officers on, and canals, ports, etc	45	26, 27
Report on, and water storage in the arid regions	287	38
Johnson, Capt. Henry, to place on retired list	183	33
Judgments:		
Report of, against the United States	141	33
Supplemental report of, rendered against the United States	251	36
Juneau City, Alaska, public building at	231	36
K.		
Kickapoo Indians, estimate of appropriation for fulfilling treaties with	231	36
Lake Pontchartrain, Louisiana, report of examination of shoals on	111	28
Lay testimony in pension cases, report relating to	276	36
Letters, in relation to the execution of, rogatory in foreign countries	281	36
Lewes, Del., relating to occupancy of a portion of the iron pier at	239	36
Lighted gas buoys, letter recommending appropriation for purchase of	10	25
Lights:		
Estimates for the establishment of, at Devil's Island, Wisconsin	150	33
Establishment of, at Two Harbors, Minn	153	33
Linchester River, Maryland, report on examination of	161	33
Little Egg Harbor Bay and Inlet, New Jersey, report on examination of	23	25
Little Pigeon River, Tennessee, report on examination of	159	33
Louisville, Ky., relief of board of commissioners of the sinking fund of	260	36
Lower Brulé Indian Agency, letter requesting removal of, and erection of new buildings for	105	28
Lower Columbia River, Oregon, report on examination of	61	28
Lubec Channel, Maine, report on examination of	158	33
Lynn Haven Bay, Virginia, report on examination for water way between Eastern Branch of Elizabeth River and	48	28
M.		
Machine guns, appropriation for, of small-arms caliber	108	28
Magazine Gun Board, estimates of incidental expenses of the	133	33
Mail service, report in relation to alleged irregular, in rural districts	156	33
Marine-Hospital Bureau, letter recommending rent of laboratory, etc.; also, permanent bacteriologist for the	204	33
Merchant marine, letter submitting draft of a bill to establish a marine board for the advancement of the interests of the	78	28
Military Academy, appropriation for repair of cadet sinks, etc	223	36
Military establishment, letter of Secretary of War relating to contingent expenses of the	148	33
Mineral resources, estimate for preparation of the report of	188	33
Mississippi River:		
At Clinton, report on survey of	135	33
At Warsaw, Ill., report on examination of	68	28
Mokelumne River, California, report on survey of	178	33
Monks, John, & Son, claim of	187	33
N.		
Nandua Creek, Virginia, report on examination of	290	36
Nanticoke River, Maryland, report on examination of	163	33
Narragansett Bay Channel, Rhode Island, report on examination of	173	33
National Armory, Springfield, Mass., report of expenditures at the	77	28
Naval Observatory, appropriations for the new	79, 147	28, 33
Naval officers, petitions of, for equal pay and rank	145	33

Subject.	No.	Vol.
Navy Department:		
Additional force for the Secretary's office	142	33
Contingent expenses of	129	33
Report of employés below a fair standard of efficiency in the	81	28
Report showing the name of employés in the	243	36
New Mexico, additional associate justice of	76	28
Newport Creek, Maryland, report on survey of	169	33
Newport Harbor, Rhode Island, report on examination of	180	33
New York:		
Letter from assistant treasurer at, in relation to clerical force for the office of	208	33
Recruiting office, letter of Secretary of War recommending an additional clerk for	149	33
Nooksack, Skagit, and Snohomish Rivers, Washington, report on examination of	38	25
North River, Massachusetts, report on examination of shoals at mouth of the	20	25
North River, Salem, Mass., report on examination of	28	25
Northwest Seal Rock light station, California, purchase of fog-signal for	151	33
Nottoway River, Virginia, report on examination of	87	28
O.		
Ohio River, report on survey of, between mouth of Green River and Evansville, Ind	195	33
Ordnance, annual report of the Chief of	1	7
Ordnance and ordnance stores, appropriation for, for the District of Columbia	123	28
Owensborough Harbor, Kentucky, report of examination of	193	33
P.		
Pacific railroad claims, statement of	264	36
Pamlico and Bay Rivers, North Carolina, report on examination of water way between	102	33
Patapsco River, Maryland, report on examination of	102	28
Pease River, Florida, report on examination of	241	36
Pensauken Creek, New Jersey, report on examination of	31	25
Pension agencies, deficiencies for clerk hire, etc	266	36
Pensions:		
Estimate of deficiency for payment of Army and Navy	57	28
Lay testimony, report relating to	276	36
Pepperell Cove, Maine, report on examination of	62	28
Philadelphia, Pa., site and public building for the mint at	215	36
Phœnix, Ariz., estimate for Indian school at	218	36
Piscataway Creek, Maryland, report on examination of	49	28
Piscataway Creek, Virginia, report on examination of	59	28
Population of the United States, report of Superintendent of the Census giving complete returns of the	9	25
Portage Lake, Michigan, report on examinrtion of harbor lines at	200	33
Port Angeles, Wash., estimate of deficiency for the survey and appraisment of land for town site at	191	33
Port Oxford Harbor, Oregon, report in relation to	56	28
Port Royal, S. C., estimate of additional appropriation for construction of dry dock at	190	33
Port Townsend, Puget Sound, and Oak Bay, Washington, report of examination for ship channel between	92	28
Post-Office Department, annual report of transactions of business of the, for 1890	106	28 32
Postmaster-General,		
Communications from:		
Annual report of	1	10
Mail service in rural districts, report in relation to alleged irregular	156	33

Subject.	No.	Vol.
Postmaster-General—Continued.		
Communications from:		
Post-Office Department, annual report of transactions of business for the, 1890	106	28 32
Potomac Creek, Virginia, report of examination of	17	25
President of the United States,		
Communications from:		
Annual message	1	1
Barrundia, Gen. J. Martin, letter relating to the killing of	51	28
Gun factories and steel forgings, report relating to, for high-power guns	209	33
Letters, in relation to the execution of rogatory, in foreign countries	281	36
Seal fisheries of the Behring Sea, correspondence relating to	144	33
World's Columbian Commission, report of the	175	33
Princess Bay, Staten Island, New York, report on examination of	109	28
Public buildings, letter requesting appropriation for electric lights in certain specified	166	33
Atlanta, Ga., relative to heating apparatus, etc., for	211	36
Augusta, Ga., appropriation for heating and ventilating apparatus for the	93	28
Binghamton, N. Y., appropriation for, at	272	36
Buffalo, N. Y., relative to further legislation in regard to	213	36
Cheyenne River Agency, S. Dak., estimates for	104 122	28 28
Leavenworth, Kans., appropriation for repairs to the	192	33
Philadelphia, Pa. Letter requesting passage of bill for	215	36
Rochester, N. Y., appropriation for, at	262	36
San Francisco, Cal., appropriation for extension of post-office building at	69	28
Public documents, report relating to the receipt, distribution, and sale of, in the Interior Department	128	28
Public lands, suspended entries, abstract of	181	33
Public money, report on banks in which deposits of, are made	101	28
Public papers, useless files of	212	36
Public printing, estimates of deficiency for	33	25
Pungo River to Sladesville, N. C., report on examination of water way from	160	33
Puyallup River, Washington, report on examination of	21	25
R.		
Receipts and expenditures, annual report of the Treasurer on	47	25
Redwood Creek, California, report on examination of	55	28
Red River of the North, report on examination of	292	36
Retired army officers in the civil service, report relating to	282	36
Rochester, N. Y., appropriation for public building at	262	36
Rouge River, Michigan, report on examination of	115	28
Russell's Fork, Big Sandy River, Kentucky, report on examination of	29	25
S.		
Sacramento and Feather Rivers, California, report on future improvement of	246	36
St. Augustine Harbor, Florida, report on examination of	291	36
St. John's River, Florida, report on examination of	240	36
St. Joseph, Mo., appropriation for public building at	245	36
St. Leonard's Creek, Maryland, report on examination of	120	28
St. Mary's Fall's Canal, Michigan, report on commerce passing	95	28
San Rafael River, California, report on examination of	54	28
San Simeon Bay, California, report on examination of	64	28
Santa Cruz, Cal., report on examination of a harbor of refuge at	32	25
Saugatuck River, Connecticut, report on examination of	179	33
Savannah River, Georgia, report on survey of	255	36
Seal fisheries of Behring Sea, official correspondence relating to	144	33
Sebewaing River, Wisconsin, report of examination of	154	33

Subject.	No.	Vol.
Secretary of Agriculture:		
Communications from, annual report of	1	17
Department of Agriculture, expenditures in the	35	25
Silk, reports relating to, for 1890	203	33
Secretary of the Interior,		
Communications from:		
Annual report of (in five volumes):		
The Secretary (Vol. 1)	1	11
The Secretary (Vol. 2)	1	12
Commissioner of Education (Vol. 4)	1	14, 15
Commissioner of Labor (Vol. 5)	1	16
Commissioner of Patents (Vol. 3)	1	13
Eleventh Census, returns of the	9	25
Indian Department, tabular statements of disbursements for 1890	8	25
Indian depredation claims, schedule of	277	36
Interior Department:		
Expenditure of contingent fund	130	33
Lay testimony in pension cases, report to the resolution of the House in relation to	276	36
Public documents, report regarding the receipt, distribution, and sale of	128	28
Public lands, abstract of suspended entries	181	33
Population of the United States, returns of the	9	25
Sisseton and Wahpetons, relating to distressed condition of the	100	27
Secretary of the Navy,		
Communications from:		
Annual report	1	9
Navy Department:		
Report of employés below a fair standard of efficiency in the	81	28
Contingent expenses of	129	33
Report showing the names of employés in the	243	36
Secretary of State,		
Communications from:		
Annual report on foreign relations	1	1
Cholera, report on, in Europe	121	28
Commercial relations, 1888, 1889	70	29
Consular officers, special reports on irrigation canals, ports, etc	45	26, 27
Secretary of the Treasury,		
Communications from:		
Alaska, transportation of witnesses in	194	33
Annual report on the state of finances for 1890	2	19
Appropriations, estimates of, for the service of the year ending June 30, 1892	5	22
Appropriations, estimates of deficiencies	167	22
Appropriations, estimates of deficiency for Army and Navy pensions	57	28
Arizona, draft of bill setting apart certain lands for Indian school purposes in	216	36
Army, Quartermaster's Department, deficiencies in the	224	36
Army subsistence, deficiencies for	230	36
Assistant treasurer at New York, increase clerical force for the office of	208	33
Benicia Arsenal, Benicia, Cal., estimate of appropriation for	83	28
Bounty on sugar, estimates of appropriation relating to	186	33
Brooks, S. H., relation to release of	233	36
Bureau of Engraving and Printing, disbursing clerk for the	94	28
Bureau of Engraving and Printing, addition to the site of the building for the	254	36
Clallam County, Wash., relating to donation of proceeds of certain lands to	252	36
Carlisle, Pa., additional estimate for Indian school at	220	36
Cheyenne River Agency, S. Dak., boarding-school building at	122	28
Claims, appropriation to pay the, of certain merchants of Austria-Hungary	189	33
Claims, deficiencies for defending suits in, against the United States	227	36

Subject.	No.	Vol.
Secretary of the Treasury—Continued.		
Communications from:		
Claims, list of, allowed by accounting officers of the Treasury	171	33
Claims, list of, allowed since January 15, 1890	248	36
Claims, list of, allowed and paid from the indefinite appropriations of the act of April 4, 1890	249	36
Coast and Geodetic Survey, expenditures of the, for 1890	278	36
Collecting revenue from customs, recommending permanent appropriation for	82	28
Consulate-general at London, appropriation for the archives of the	137	33
Coulson, Sewell, claim of	214	36
Court of Claims, judgments rendered by the	234	36
Courts of the United States:		
Expenses of	229	36
Deficiencies for the	259	36
New Mexico, additional associate justice of	76	28
Customs duties, refunds of	44	25
Customs revenue, expenses of collecting	247	36
Customs service, official emoluments of officers in the	285	36
Payments to informers and seizing officers	12	25
Customs tariffs, international bureau for publication of	242	36
District of Columbia, deficiencies in appropriation for the	244	36
Deficiencies for support of public schools in the	257	36
Electric lights, appropriation for, in certain public buildings	166	33
Ellis Island, appropriation for projected buildings on	146	36
Foreign commerce and navigation, annual report and statements of the Chief of the Bureau of Statistics on, etc	6	23, 24
Government Hospital for the Insane, additional farm land for the	126	28
Government Printing Office, removal and storage of certain material of the	236	36
Hays, Thomas G., claim of	261	36
Immigrant fund, relating to	232	36
Import duties, appropriation to enable Light-House Board to pay, used in the establishment of light-houses, etc	99	28
Indian schools, amended estimates of appropriations for certain	222	36
Indian school superintendent, estimate of deficiency in appropriation for traveling expenses of, for 1890	219	36
Indian service, supplemental estimates for the	131	33
Indians, additional subsistence for	139	33
Apaches, appropriation for	41	25
Creeks, fulfilling treaties with	238	36
Kickapoos, estimate of appropriation for fulfilling treaties with	221	36
Lower Brulé, removal of agency of, and erection of new buildings for	105	28
Sioux, appropriation to fulfill treaty with	37	25
additional provision for the	36	25
support of different tribes of, subsistence and civilization	52	28
Indigent soldiers, appropriation for burial of	127	28
Interior Department, report of employés in the, below a fair standard of efficiency	58	28
Internal-revenue stamps, appropriation for purchase of paper for	270	36
International American Conference, printing and distributing reports of the	250	36
Lighted gas-buoys, letter recommending an appropriation for the purchase of	10	25
Light stations:		
Absecon, N. J., recommending additional accommodations for keepers of	53	28
Assateague, Virginia, recommending additional accommodations for keepers of	53	28
Barnegat, N. J., recommending additional accommodations for keepers of	53	28
Lights:		
Northwest Seal Rock light station, California, purchase of fog-signal for	151	33

Subject.	No.	Vol.
Secretary of the Treasury—Continued.		
Communications from:		
Lights, establishment of:		
Two Harbors, Minn	153	33
Louisville, Ky., relating to the relief of the board of commissioners of the sinking fund of	260	36
Machine guns of small arms caliber, appropriation for	108	28
Magazine-gun Board, estimates for incidental expenses of the	133	33
Marine-Hospital Bureau, laboratory and permanent bacteriologist for the	204	33
Merchant Marine, submitting draft of bill to establish a marine board for the advancement of the interests of the	78	28
Mineral resources, estimate for preparation of the report of	188	33
Monks, John, & Son, claim of	187	33
Naval Observatory, appropriation for equipping new	79 147	28 33
Navy, the Secretary of, additional force for the office of the	142	33
New York, increase force of the assistant treasurer at	208	33
Pacific Railroad claims, relating to	264	36
Pension agencies, deficiencies for clerk hire, etc	266	36
Pensions, deficiency for Army and Navy	57	28
Port Angeles, Wash., estimate of deficiency for the survey and appraisement of land for the town-site at	191	33
Port Royal, S. C., estimate of appropriation to complete timber drydock at	190	33
Public buildings:		
Letter requesting appropriation for electric lights in certain specified	166	33
Atlanta, Ga., estimate of appropriation for heating apparatus, etc., for	211	36
Auburn, N. Y., requesting appropriation for, at	228	36
Augusta, Ga., appropriation for heating and ventilating apparatus for	93	28
Binghamton, N. Y., requesting appropriation for, at	272	36
Buffalo, N. Y., relative to site for	213	36
Cheyenne River Agency, S. Dak., estimate for construction of	104 122	28 28
Juneau City, Alaska, appropriation for, at	231	36
Leavenworth, Kans., appropriation for repairs of	192	33
Philadelphia, Pa., communication requesting passage of bill for site and, at	215	36
Phœnix, Ariz., estimate for Indian school at	218	36
Rochester, N. Y., appropriation for, at	262	36
St. Joseph, Mo., appropriation for, at	245	36
San Francisco, Cal., appropriation for extension of post-office building at	69	28
Sitka, Alaska, requesting appropriations for, at	235 237	36 36
Public money, report on banks in which deposits of, are made	101	28
Public papers, useless files of	212	36
Public printing, estimate of deficiency for	33	25
Receipts and expenditures, annual report on	47	25
Shipping Commissioners, expenses of the officers of the	71	28
expenses of the office of the	263	36
Sixth Auditor's Office, money-order division of the	253	36
Smithsonian Institution, relating to the Regents of the	279	36
Smuggling, etc., steamer for the prevention of	226	36
Thomas Ewing (revenue steamer), appropriation to rebuild the	112	28
Tobacco, amendments to existing statutes relating to the tax on	170	33
Treasurer of the United States, accounts of	90	31
Treasury Department, contingent expenses of	11	25
increasing force in the assistant treasurer's office of the	96	28
Umatilla commission, claims of the	210	36

Subject.	No.	Vol.
Secretary of the Treasury—Continued.		
Communications from:		
Utah:		
United States penitentiary in, relative to shops at the	201	33
Appropriation for expenses of courts of	269	36
Penitentiary, appropriation for electric lights and furniture for the	258	36
Wallace, John W., salary due	75	28
World's Columbian Exposition, estimate of appropriation for the	176	33
appropriation for Government's exhibit at	177	33
Secretary of War, communications from:		
Annual report	1	2
Report of Chief of Engineers	1	3
Report of Chief of Engineers	1	4
Report of Chief of Engineers	1	5
Report of Chief of Engineers	1	6
Report of Chief of Ordnance	1	7
Report of Chief Signal Officer	1	8
Army, relative to brevet rank of officers	206	33
Retired, officers in the civil service, report of the	282	36
Bethlehem Iron Company, report on ores used by the, for the manufacture of steel	294	36
California, Mining débris of	267	36
Chickamauga and Chattanooga National Military Park Commission, report of the, relative to appropriations	98	28
Civilian engineers, letter, relative to	143	33
Fort Canby to Ilwaco, letter requesting early consideration of bill for construction of wagon road from	13	25
International storm signals, report submitting draft of a bill pertaining to	288	36
Iron and steel, tests of, for 1890	165	34
Irrigation, report on, and storage of water in the arid regions	287	38
Johnson, Capt. Henry, placed on retired list	183	33
Lewes, Del., in relation to the occupancy of a portion of the iron pier at	239	36
Military Academy, recommending an additional appropriation for repair of cadet sinks, etc	223	36
Military establishment, expenditures of, contingent expenses of the, for 1890	148	33
National Armory, Springfield, Mass., report of expenditures at the	77	28
New York recruiting office, letter recommending additional clerk at	149	33
Ordnance and ordnance stores, letter relating to omission of item for, for the District of Columbia	123	28
Rivers and harbors:		
Alabama River, Alabama, report on examination of	140	33
Allouez Bay and Nemadji River, Wisconsin, report on examination of	40	25
Alsea Bay and River, Oregon, report on examination of	85	28
Altamaha River, Georgia, report on examination of	283	36
Alviso Harbor and Creek, California, report of examination of	16	25
American Channel, Detroit River, report on examination of	43	25
Barnegat and Great Egg Harbor Bays, New Jersey, report on examination of sound between	42	25
Bay Ridge Channel, New York Harbor, report on examination of	60	28
Bayou Black, Louisiana, report of examination of	113	28
	125	28
Bayou Castor, Louisiana, report on examination of	185	33
Bayou Cocodrie, Louisiana, report on survey of	114	28
Bayou Des Glaises, Louisiana, report on examination of	119	28
Bayou Teche, Louisiana, report on examination of	280	36
Bayou Terre Bonne, Louisiana, report on examination of	110	28
Bayou Tigre and Chevreuil, Louisiana, report on examination of	182	33
Bayou Vermillion, Louisiana, report on examination of	273	36
Berwick's Bay, Louisiana, report on examination of	198	33
Big Barren River, Kentucky, report on examination of	15	25

Subject.	No.	Vol.
Secretary of War—Continued.		
Communications from:		
Rivers and Harbors—Continued.		
Black River, South Carolina, report on survey of	286	36
Blue Hill Harbor, Maine, report and survey of	19	25
Boat or Number Four Channel, Florida, report of examination of	205	33
Boquet River, New York, report on examination of	30	25
Buttermilk and Gowanns Bay Channels, New York Harbor, report on examination of	26	25
Cane River, Louisiana, report on examination of	184	33
Cape May City, N. J., report on examination for breakwater at	39	25
Cape May to Great Bay, New Jersey, report on examination for a thoroughfare from	50	28
Champlin's Creek, New York, report on examination of	66	28
Chattahoochee River, Georgia and Alabama, report on examination of	134	33
Chickahominy River, Virginia, report on examination of	217	36
Colorado River, Arizona, report on survey of	18	25
Colorado River, Texas, report on examination of	138	33
Connecticut River, report on examination of, from Long Island Sound to Hartford, etc	86	28
Corsica Shoal, Michigan, report on examination of	225	36
Current River, Missouri, report on examination of	157	33
Deep, Skamokawa and Crooked Rivers, Washington, report on survey of	24	25
Devil's Lake, North Dakota, report on examination of	293	36
Double Bayou, Texas, report on examination of	117	28
Drum Inlet, North Carolina, report on survey of	164	33
D'Wamish and Black Rivers, Washington, report on examination of	27	25
Elk River, West Virginia, report on examination of	103	28
Fox River, Wisconsin, letter submitting a draft of rules and regulations for the navigation and use of locks and canals of the	152	33
Gunter's Creek, Alabama, report on examination of	132	33
Hamilton, Ill., report on examination of the slough at	72	28
Hudson, Wis., report on examination of harbor at	268	36
Indian River, Florida, report on survey of	168	33
Inner Bay, New York, report on examination of, near mouth of Saranac River	22	25
Lake Pontchartrain, Louisiana, report on examination of shoals on	111	28
Linchester River, Maryland, report on examination of	161	33
Little Egg Harbor, Bay, and Inlet, New Jersey, report on examination of	23	25
Little Pigeon River, Tennessee, report on examination of	159	33
Lower Columbia River, Oregon, report on examination of	61	28
Lubec Channel, Maine, report on examination of	158	33
Lynn Haven Bay, Virginia, report on examination for a water way between eastern branch of Elizabeth River and	48	28
Mississippi River at Clinton, Iowa, report on survey of	135	33
Mississippi River at Warsaw, Ill., report on examination of	68	28
Mokelumne River, California, report on survey of	178	33
Nandua Creek, Virginia, report on examination of	290	36
Nanticoke River, Maryland, report on examination of	163	33
Narragansett Bay Channel, Rhode Island, report on examination of	173	33
Newport Creek, Maryland, report on survey of	169	33
Newport Harbor, Rhode Island, report on examination of	180	33
Nooksack, Skagit, and Snohomish Rivers, Washington, report on examination of	38	25
North River, Massachusetts, report on examination of shoals at the mouth of the	20	25
North River, Salem, Mass., report on survey of	28	25

Subject.	No.	Vol.
Secretary of War—Continued.		
Communications from:		
Rivers and harbors—Continued.		
Nottoway River, Virginia, report on examination of	87	28
Ohio River, report on survey of, between mouth of Green River and Evansville, Ind	195	33
Owensborough Harbor, Kentucky, report of, examination of	193	33
Pamlico and Bay Rivers, North Carolina, report on examination of water-way between	162	33
Patapsco River, Maryland, report on examination of	102	28
Pease River, Florida, report on examination of	241	36
Pensauken Creek, New Jersey, report on examination of	31	25
Pepperell Cove, Maine, report on examination of	62	28
Piscataway Creek, Maryland, report on examination of	49	28
Piscataway Creek, Virginia, report on examination of	59	28
Portage Lake, Michigan, report on examination of harbor lines at	200	33
Port Oxford Harbor, Oregon, report in relation to	56	28
Port Townsend Bay, Puget Sound, and Oak Bay, Washington, report of examination of ship channel between	92	28
Potomac Creek, Virginia, report on examination of	17	25
Princess Bay, Staten Island, New York, report on examination of	109	28
Pungo River to Sladesville, N. C., report on examination of the water way from	160	33
Puyallup River, Washington, report on examination of	21	25
Red River of the North, report on the examination of	292	36
Redwood Creek, California, report on examination of	55	28
Rouge River, Michigan, report on examination of	115	28
Russell's Fork, Big Sandy River, Kentucky, report on examination of	29	25
Sacramento and Feather Rivers, California, report on future improvement of	246	36
St. Augustine Harbor, Florida, report on examination of	291	36
St. John's River, Florida, report on examination of	240	36
St. Leonard's Creek, Maryland, report on examination of	120	28
San Rafael River, California, report on examination of	54	28
San Simeon Bay, California, report on examination of	64	28
Santa Cruz, California, report on examination for a harbor of refuge at	32	25
Saugatuck River, Connecticut, report on examination of	179	33
Savannah River, Georgia, report on survey of	255	36
Sebewaing River, Michigan, report on examination of	154	33
Shark River, New Jersey, report on examination of	25	25
Shaw's Cove, New London Harbor, Connecticut, report on examination of	73	28
Ship channel between the Great Lakes, report on examination of	207	33
Smithland, Ky., report on examination of harbor at	107	28
Stony Creek River, Connecticut, report on survey of	124	28
Sucarnoochee River, Alabama, report on examination of	116	28
Sullivan Falls, Maine, report on examination of	84	28
Tangier Harbor, Virginia, report on examination of	172	33
Tionesta Creek, Pennsylvania, report on examination of	196	33
Tongue River, Montana, report on examination of	118	33
Town River, Massachusetts, report on survey of	155	33
Trinity River, Texas, report on examination of	275	36
Upper Machodoc Creek, Virginia, report on examination of	63	28
Wabash River, Indiana, report on examination of	65	28
Washington Harbor, North Carolina, report on, examination of	289	36
Watch Hill Cove, Rhode Island, report on examination of	174	33
Wateree River, South Carolina, report on examination of	271	36
Western Branch of Elizabeth River, Virginia, report on survey of	88	28
Weymouth Back River, Massachusetts, report on survey of	256	36
White Oak River, North Carolina, report on examination of	97	28

Subject.	No.	Vol.
Secretary of War—Continued.		
Communications from:		
Rivers and harbors—Continued.		
Willamette River, Oregon, report on examination of	74	28
Willow Slough, Illinois, report relative to reopening of	284	36
Young's Bay Channel, Columbia River, report on examination of	67	28
St. Mary's Falls Canal, Michigan, report on commerce passing	95	28
War Department, accounts of disbursing officers of the	14	25
contingent expenses of	34	25
clerks and messengers for the Inspector-General's Office	199	33
efficiency of employés in the	202	33
list of employés of the	197	33
Report of contracts entered into by the	91	28
Report of purchases by the Quartermaster's Department of the	89	28
Washington and Great Falls Electric Railway Company, report giving reasons why the, should not be allowed to lay tracks	274	36
West Branch of the Susquehanna River, Pennsylvania, report of examination of	136	33
Shark River, New Jersey, report on examination of	25	25
Shaw's Cove, New London HarborsConnecticut, report on examination of	73	28
Ship channel between the Great Lakes, report of examination for a	207	33
Shipping commissioners:		
Expenses of the officers of the	71	28
Expenses of the office of the	263	36
Silk, report relating to, for 1890	203	33
Sioux Indians:		
Additional provisions for the	36	25
Support of, of different tribes, subsistence and civilization	52	28
Appropriation to fulfill treaty with	37	25
Sisseton and Wahpeton Indians, letter relating to distressed condition of	100	28
Sitka, Alaska, appropriation for repairs of public building at	235 237	36 36
Sixth Auditor's Office, rent for money-order division of the	253	36
Smithland, Ky., report on examination of harbor at	107	28
Smithsonian Institution, relating to the Regents of the	279	36
Smuggling, etc., steamer for the prevention of, on the west coast of of Florida	226	36
Statistical Abstract	46	25
Story Creek River, Connecticut, report on survey of	124	28
Sucarnoochee River, Alabama, report on examination of	116	28
Sugar, bounty on, estimates of appropriation relating to	186	33
Sullivan Falls, Maine, report on examination of	84	28
T.		
Tangier Harbor, Virginia, report on examination of	172	33
Thomas Ewing, revenue steamer, appropriation to rebuild	112	28
Trinity River, Texas, report on examination of	275	36
Tionesta Creek, Pennsylvania, report on examination of	196	33
Tobacco, amendments to existing laws relating to tax on	170	33
Tongue River, Montana, report on examination of	118	29
Town River, Massachusetts, report on survey of	155	33
Treasurer, United States, accounts of	90	31
Treasury Department:		
Contingent expenses of	11	25
Increasing force in the assistant treasurer's office	96	28
U.		
Umatilla Commission, claims of the	210	36
Upper Machodoc Creek, Virginia, report on examination of	63	28
Utah:		
Letter relative to workshops for penitentiary in	201	33
Appropriation for expenses of courts of	269	36
Utah penitentiary, appropriation for electric lights and furniture for the	258	36

Subject.	No.	Vol.
W.		
Wabash River, Indiana, report on examination of	65	28
Wallace, John W., salary due	75	28
War Department:		
Accounts of disbursing officers of the	14	25
Letter of the Secretary of War relating to contingent expenses of	34	25
Report of purchases by the Quartermaster's Department of the	89	28
Report of contracts entered into by the	91	28
List of employés of the	197	33
Report of employés in the, below a fair standard of efficiency	202	33
Washington and Great Falls Electric Railway Company, report of the Secretary of War setting forth reasons why the, should not be allowed to lay certain tracks	274	36
Washington Harbor, North Carolina, report on examination of	259	36
Watch Hill Cove, Rhode Island, report on examination of	174	33
Wateree River, South Carolina, report on examination of	271	36
West Branch of the Susquehanna River, Pennsylvania, report of examination of	136	33
Western Branch of Elizabeth River, Virginia, report on survey of	88	28
Weymouth Back River, Massachusetts, report on survey of	256	36
White Oak River, North Carolina, report on examination of	97	28
Willamette River, Oregon, report on examination of	74	28
Willow Slough, Illinois, relative to reopening of	284	36
World's Columbian Commission, report of the	175	33
World's Columbian Exposition:		
Estimate of appropriation for the	176	33
Appropriation for Government's exhibit at	177	33
Y.		
Young's Bay Channel, Columbia River, report on examination of	67	28

51ST CONGRESS, 2d Session. } HOUSE OF REPRESENTATIVES. { Ex. Doc. 45, Part 2.

SPECIAL CONSULAR REPORTS.

PORT REGULATIONS

IN

FOREIGN COUNTRIES.

REPORTS FROM THE CONSULS OF THE UNITED STATES, IN COMPLIANCE WITH A DEPARTMENT CIRCULAR, ON PILOTAGE, LIGHT DUES, QUARANTINE REGULATIONS, ETC., IN THEIR SEVERAL DISTRICTS.

ISSUED FROM THE BUREAU OF STATISTICS, DEPARTMENT OF STATE.

ALL REQUESTS FOR THESE REPORTS SHOULD BE ADDRESSED TO THE SECRETARY OF STATE.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.
1891.

SPECIAL CONSULAR REPORTS ON PORT REGULATIONS IN FOREIGN COUNTRIES.

CONTINENT OF AFRICA.

BRITISH POSSESSIONS IN AFRICA.

CAPE COLONY.

CAPE TOWN.

REPORT BY CONSUL HOLLIS.

PILOTAGE.

Pilotage is not compulsory.

Pilot charges are the same for vessels of the country as for foreign vessels.

No vessels enjoy special privileges in this regard except British men of war.

Vessels in distress and foreign war vessels pay pilotage if pilotage is requested by said vessels.

LIGHT DUES.

There are no light dues at this port.

GENERAL CHARACTER OF THE LIGHTS.

Mouille Point Light is situated in latitude 33° 53′ 56″ S., and longitude 18° 24′ 46″ E. It is a round white shaft 30 feet high, painted with horizontal red bands. The light is 44 feet above high-water mark, and is a red dioptric fixed, of the fourth order, and is visible about 10 miles.

Green Point Light is situated in latitude 33° 54′ 4″ S., and longitude 18° 24′ 3″ E. The shaft is a square tower 80 feet above high water, and the light is a white dioptric of the third order, flashing at intervals of 10 seconds, and is visible about 13 miles.

Robben Island Light is situated on a hill in the southernmost and highest part of Robben Island at an elevation of 154 feet above high water. It is in latitude 33° 48′ 52″ S. and longitude 18° 22′ 33″ E. The shaft is 60 feet high, painted white, and the light is a fixed white

dioptric of the third order, visible all round the horizon from 10 to 20 miles.

Cape Point Light is situated on Cape Point, the southernmost extremity of the Cape peninsula, at an elevation of 816 feet above high water, in latitude 34° 21′ 12″ S. and longitude 18° 29′ 30″ E. The shaft is of iron, 30 feet high, and painted white. The light is a white revolving, of the first order catoptric, showing a bright face for the space of 12 seconds every minute, visible for about 36 miles all round the horizon, except between the bearings from a ship of SSW. and S. ½ E., and between S. ½ E. and SSE. ¾ E., on which latter arc it is obscured by the intervention of Vasco de Gama Peak, rising 64 feet above the light.

Roman Rock Light is on Roman Rock in False Bay, at an elevation of 54 feet above high water, latitude 34° 10′ 54″ S., longitude 18° 27′ 30″ E. The tower is painted in broad horizontal bands of red and white, and contains a white revolving light of the third order catoptric, which shows a bright face for the space of 12 seconds every half minute, and is visible in clear weather for 12 miles.

Cape L'Agulhas Light is on the cape of the same name in latitude 34° 49′ 46″ S., and longitude 20° 0′ 40″ E. Elevation 128 feet above high water. The tower is round, 85 feet high, painted in horizontal red and white bands alternating, and holds a fixed white light of the first order, catadioptric. When it bears between W. and SE. by E., including 19 points of the compass, it is visible 18 miles.

Cape St. Blaize Light is on the promontory of the same name, latitude 34° 11′ 10″ S., longitude 22° 9′ 31″ E., at an elevation of 240 feet above high water. The tower is square, painted white, 60 feet high, with a fixed red light of the third order, dioptric, and is visible 10 or 12 miles seaward when it bears between E. ¾ N. and NNW.

Cape St. Francis Light is situated on Seal Point, 1¾ miles to the westward of Cape St. Francis. The tower, which is at an elevation of 100 feet above high water, is round, of stone, painted white, and is 91 feet high. The light is a white revolving, of the second order, holophotal, flashing at intervals of 20 seconds.

TONNAGE DUES.

Tonnage dues are collected only when vessels are in dock.

There is no discrimination in regard to flag, except British war ships.

Vessels of no nationality enjoy special privileges.

QUARANTINE.

All quarantine rules and regulations are contained in the act No. 4, 1883, of the colonial parliament, a copy of which, appended to the report of the United States consular agent at Port Elizabeth, is herewith inclosed.

GEO. F. HOLLIS,
Consul.

UNITED STATES CONSULATE,
Cape Town, September 10, 1889.

PORT ELIZABETH.

REPORT BY CONSULAR AGENT CHABAUD.

PILOTAGE.

Pilotage is not compulsory.

Pilot charges are the same for all vessels, but there is no fixed charge at this port. The usual rate is from £6 to £7 10*s*. I strongly advise masters to make an agreement with pilot before taking him on board. If pilot refuses, then arrange to pay whatever sum the harbor master may award.

No foreign flag enjoys special privileges in this regard.

Vessels in distress and foreign war vessels pay pilotage if they take a pilot. Here, again, I strongly recommend a specific agreement. The pilots will always endeavor to obtain more from a war vessel or a vessel in distress. I may add it is, in my opinion, advisable for vessels to take a pilot in every case.

LIGHTS AND LIGHT DUES.

There are no light dues at this port of Algoa Bay, Port Elizabeth.

Bird Island Light.—A new light-house has been erected on the Bird Islands, from which a fixed red light of the third order, dioptric, is exhibited, superseding the two fixed white lights hitherto shown. This red light was first shown on May 1, 1873, and the old light-house has since been removed.

The latitude and longitude of the light-house are 33° 50′ 26″ S., 26° 17′ 13″ E. The light-tower is square and castellated, of a stone color, and showing a large ornamented cross on its north and south faces, but only a circular aperture in the center of the tower on its east and west sides. The red light, which is 80 feet above the mean sea level, is visible all around the horizon, and can be seen from a ship's deck of 15 feet at a distance of 14¼ sea miles in ordinary weather.

Cape Recil Light.—The light-house is a stone tower, painted with alternate horizontal white and red bands. It exhibits from sunset to sunrise throughout the year a white light, revolving once in a minute; and being 90 feet above the sea level is visible from seaward in clear weather above 15 miles, when it bears between E. and SW. ½ S., that is including 20½ points of the horizon; but within the bay, between the bearings of SW. ½ S., and S. by W., it shows red to warn ships of too near an approach to the Dispatch or the Roman Rock.

Port Elizabeth Harbor Light.—The light is fixed, and visible seaward when bearing between NW. and SW. one point at each extremity of the arc, viz, from the NW. to NW. by W., and from SW. to SW. being red, and the intermediate six points white. The light is placed at an elevation of 225 feet above the level of high water, and should be seen from the deck of a ship in clear weather at a distance of 12 miles.

TONNAGE DUES.

There are no tonnage dues charged at this port of Algoa Bay, Port Elizabeth.

QUARANTINE.

I think I can not do better than annex the colonial act on the subject. The duration of quarantine rests entirely with the district surgeon, who reports to the chief local authority.

JOHN A. CHABAUD,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Port Elizabeth, September 14, 1889.

[Inclosure in Consular Agent Chabaud's report.]

Quarantine laws of Cape Colony.

[Act to amend the law relating to public health.—Assented to September 6, 1883.]

* * * * * * *

10. All vessels, as well Her Majesty's ships of war and the ships of war of other nations, as others, arriving in the ports of this colony, shall be liable to the provisions of this act, and any regulations made under this act concerning quarantine and the prevention of infection.

11. The governor may notify that any place, whether within or beyond the colony, is infected with any infectious or contagious disease dangerous to the health of the people. Immediately after such notification (1) all vessels arriving at any port or place in the colony from or having touched at any such infected place; (2) all vessels and boats receiving any person or thing from or out of any vessel coming from or having touched at any such infected place; (3) all persons or things on board of any vessel coming from or having touched at such infected place, or on board of any such vessel as is above mentioned in subsection 2, shall be liable to quarantine.

12. Any vessel arriving at any port or place in this colony from any place within or beyond this colony having any infectious or contagious disease on board, or on board of which any infectious or contagious disease may have appeared in the course of the voyage, or arriving under circumstances deemed to be suspicious as to infection or contagion, although such vessel shall not have arrived from any place declared to be infected, and any person and things on board the same, shall be liable to quarantine.

13. All vessels and boats, whether coming from a place declared to be infected, or being otherwise liable to quarantine under the provisions of this act, and all persons (as well pilots as others) and things, whether coming or brought in such vessels or boats, or going or put on board the same, either before or after the arrival of such vessels or boats at any place in the colony, shall perform quarantine in such places, for such time, and in such manner as shall be directed by the governor, and shall be subject to all the provisions contained in this act, or in any regulations made under the authority of this act concerning quarantine.

14. Until any vessel and boats, persons and things, liable to quarantine, shall respectively have performed, and shall be duly discharged from quarantine, no such persons or things shall come or be brought on shore, or go or be put on board any other vessel or boat in order to be brought or come on shore in any place in this colony, except in such manner, and in such cases, and by such authority as shall be directed or permitted by the government, or by any regulations made under the authority of this act.

15. Any commander or master of a vessel arriving at any port or place in this colony from any place beyond, or from, or having touched at any place declared by the governor to be infected, within the colony, and any person on board thereof, communicating, or attempting to communicate with the shore, or with any other vessel, or with any boat from any vessel, or from the shore, or allowing any person on board so to do, otherwise than by signal, before such vessel shall have received pratique from the port officer or health officer, or other person duly authorized in this act, and before the health flag has been hoisted in token thereof, and any person from the shore, or from any vessel in any of the ports of this colony, or from any boat, except the officers authorized under this act, boarding or going alongside any such vessel arriving in any of the said ports, or receiving into any boat any parcel or package, or other thing whatever, from on board such vessel, previously to such vessel having received pratique, in the mode hereinafter described, shall be liable on conviction to a penalty not exceeding £50, and, in default of payment, to imprisonment with or without hard labor for a period not exceeding 6 months.

16. If at any time it should be necessary for the port office to board any vessel entering a port of this colony, or to allow his boat's crew to board the same, or otherwise personally to communicate with such vessel, with the view of rendering assistance in case of danger, previously to such vessel having received pratique, all such persons who may have so communicated with the said vessel shall remain in quarantine, either on board such vessel, or in their own boat, until such time as the vessel with which they have so communicated may have obtained pratique, on pain of rendering themselves liable to the penalties hereinafter imposed on persons unlawfully communicating with the shore before pratique has been given; and if the vessel with which the port officer, or boat's crew, have communicated as aforesaid, be afterwards placed under quarantine by a competent authority, the said port officer, or boat's crew, shall remain in and be liable to quarantine.

17. On the arrival of any vessel in any port of this colony, the commander or master thereof shall, upon being furnished by the port officer, or health officer, or other person duly authorized, with a printed declaration of health, according to the form in the second schedule hereto, fill up and sign the same, if he feels himself justified from the perfect state of health of every person on board so to do, and shall return the said declaration, so filled up and signed, to the officer as aforesaid; whereupon such vessel may be granted pratique; and the commander or master shall then hoist the union jack, or flag of the nation to which the vessel belongs, to the main top gallant masthead, as the health flag, in token of such pratique having been duly granted. But no such pratique shall be deemed or taken to be so granted until duly signified by such health flag having been so hoisted.

18. If the commander or master of any such vessel shall sign and deliver any declaration of health containing any false statement, or false answer to any question therein inserted, such commander or master shall, upon conviction, be liable to a penalty not exceeding £200, or in default of payment, to imprisonment, with or without hard labor, for a period not exceeding 12 months, or to both such penalty and such imprisonment.

19. If any commander or master of a vessel arriving in a port of this colony should, from the ill state of health of any of the persons on board of his vessel, or from any other circumstances, not deem himself warranted to sign the declaration of the perfectly healthy state of the vessel, the port officer, or other person as the case may, shall in every such case make every necessary inquiry into the state of health of the officers, passengers, crew, and others, and if there should be any sick persons on board, into the nature and character of their complaints; and shall, after such inquiry, either detain the said vessel in quarantine, or give her pratique as to him may appear fitting: *Provided*, That when there may be any reasonable cause of doubt or suspicion, he shall not grant pratique, but shall place the vessel in quarantine, and report thereon, if the vessel is in Table Bay, to the colonial secretary, or if in any of the other ports of this colony, to the resident magistrate thereat, or to the justice of the peace or other local authority nearest thereto, in order that further medical advice may be obtained.

20. If the port officer or health officer should deem it necessary to place the vessel in quarantine, he shall notify the same to the commander or master thereof, and give him a copy of this act, and of any regulations made under this act concerning quarantine, and order him to hoist a yellow flag at the fore topgallant masthead, and shall forthwith report the same to the colonial secretary, or other chief local authority as aforesaid of the district in which the port is situated, in order that the necessary measures may be taken for cutting off all communication with such vessel, for such time as may be needful, and under proper precautions to be superintended by the health officer, or other person duly appointed, for furnishing the said vessel with any supplies she may be in want of; and if the commander or master of any vessel so placed in quarantine have not a yellow flag on board, the health officer or port officer shall order one to be furnished forthwith, at the expense of the said commander or master, who shall hoist the same, or cause it to be hoisted, as directed, and to be kept up during the day, so long as the vessel may be detained in quarantine, under a penalty not exceeding £20; and during the night, the commander or master of any vessel so placed in quarantine shall, in lieu of such yellow flag, cause to be hoisted and kept at the fore topgallant masthead two lighted lanterns, one over the other, under a similar penalty not exceeding £20.

21. In case of the illness, or other necessary absence, of the health officer, the port officer may give pratique to any vessel whereof the commander or master has signed the health certificate as aforesaid: *Provided*, Such vessel has not touched at or communicated with vessels coming from any infected port, in which case the port officer shall not give pratique, but a competent officer shall be expressly appointed to act for and perform the functions of the health officer.

22. At any port of this colony for which no health officer or port officer is appointed, the resident magistrate, or any officer of customs, or in the absence of any such officer, any justice of the peace or field cornet at or near such port, may, in the event of

the casual arrival of a vessel thereat, act, or depute some competent person to act, as health officer and port officer; and the said resident magistrate, or other officer as aforesaid, and any person by him deputed to act, is hereby authorized and required, as far as circumstances will permit, to perform all the duties assigned by this act to the health officer and port officer respectively, and is to be considered and obeyed as such.

23. The resident magistrate, or, in the absence of such officer, any justice of the peace, at or near any port of this colony other than Table Bay, is hereby authorized and required to detain any vessel in quarantine, and to prevent all communication therewith in case of actual necessity (such necessity to be certified by the health officer or other person duly appointed to visit vessels at such port), and shall forthwith report the same to the colonial secretary; and the health officers and port officers at the several ports of the colony are hereby authorized and required, in case of necessity, to place all vessels in quarantine in the manner directed by the provisions of this act, until report thereof be made to the colonial secretary, or to a resident magistrate, justice of the peace, or other competent local authority as aforesaid.

24. All commanders or master of vessels, and other persons liable to quarantine, who may have been placed in quarantine by a competent officer as aforesaid, and all persons having had any intercourse or communication with them, shall be subject, in respect to such quarantine, during the period they are detained therein, to such orders as they may receive from the health officer, or port officer, or other competent officer acting for them; and the said officers are hereby authorized and required to enforce all due obedience to the said orders, and, in case of necessity, to call in others to their assistance; and any person who is liable to or under quarantine, refusing or neglecting to obey such orders, or attempting to evade the performance of quarantine shall, upon conviction, be liable to a penalty not exceeding £20, and in default of payment, to imprisonment for a period not exceeding 3 months.

25. If, in the case of any person placed in quarantine, either on board ship or in any lazaret or other place allotted for the performance of quarantine, it should be necessary, for the due security of the public health, that guards be placed over such person, either in boats or on shore, it shall be lawful for such guards, if an attempt at escape should be made by any such person so placed in quarantine, to resist the same by open force, and to use their arms in case of absolute necessity; and such guards shall be held justified for the same, in the event of any bodily injury being inflicted on any such person so attempting to break quarantine.

26. The governor may do all or any of the following things:

(1) Appoint stations or places for the performance of quarantine where all vessels liable to quarantine, and the crews, passengers, and persons on board thereof, shall perform the same.

(2) Appoint lazarets and other places where the crews, passengers, and other persons, and the things which may be on board the said vessels shall be detained and kept for the performance of quarantine.

(3) Appoint and remove superintendents of such lazarets, stations, or places, and such other officers as may be necessary for carrying out the provisions of this act, or any regulations made in pursuance of this act concerning quarantine.

(4) Make regulations concerning quarantine and the prevention of infection, and make such orders, and give such directions as shall appear to be necessary to cut off all communication between any person infected, or under the circumstances likely to be infected, with any contagious or infectious disease, and the rest of the inhabitants of the colony.

(5) Make such orders and regulations and give such directions as he may deem fit for shortening the time of quarantine to be performed by particular vessels, or particular persons and things, or for absolutely or conditionally releasing them or any of them from quarantine.

(6) Appoint limits around any quarantine station, lazaret, or other places within which it shall not be lawful for any person, or any vessel or boats to go or be brought.

(7) Attach a penalty for the contravention of any regulation or order made in pursuance of this act not exceeding £20, and prescribe a term of imprisonment either with or without hard labor, in default of payment, not exceeding 3 months.

(8) Order or direct that all or any of the powers, duties, or acts, authorized or required to be performed by the governor at any port or place in this colony may be exercised, performed, or done by any local authority or by any officer or person appointed by the governor, subject to such restrictions as he may impose.

27. Any person convicted of any of the following acts or offenses shall be liable to a penalty not exceeding £100, or to imprisonment with or without hard labor for any period not exceeding 6 months, or to both such fine and such imprisonment:

(1) If being a person liable to quarantine, he shall willfully refuse or neglect to repair, when required, to a quarantine station, lazaret, or other place appointed for performing quarantine.

(2) If having been placed in a quarantine station or lazaret, he shall escape or attempt to escape from the same before quarantine has been duly performed.

(3) If being the master or a person in charge of any vessel, liable to perform quarantine, he shall quit, or knowingly permit or suffer any person to quit, such vessel, by going on shore or by going on board any other vessel, before such quarantine shall be fully performed, unless by license granted by virtue of any orders or regulations made by the governor.

(4) If being the master or person in charge of any vessel, liable to quarantine, he shall not within a reasonable time after due notice given for that purpose, cause such vessel and the lading thereof to be conveyed to the place appointed for such vessel and lading to perform quarantine.

(5) If having come in any vessel liable to quarantine, or having gone on board any such vessel, he shall either before or after the arrival of such vessel at any place within this colony, quit such vessel (unless by license granted by virtue of any orders or regulations made by the governor), by going on shore, or by going on board any other vessel, or any boat, with intent to go on shore, before such vessel so liable to quarantine shall be regularly discharged from the performance thereof.

(6) If he shall willfully and without leave go within the limits assigned or appointed by the governor, around any quarantine station, lazaret, or other place for the performance of quarantine.

(7) If being a person whose duty it shall be to execute or carry out any of the provisions of this act, or any order or regulation made, or direction given under the provisions of this act concerning quarantine he shall knowingly or willfully be guilty of any breach or neglect of his duty.

(8) If he shall convey, or remove, or secrete, or conceal, for the purpose of conveying or removing, anything from any vessel actually performing quarantine, or from any quarantine station, lazaret, or other place, where such thing shall be performing quarantine.

(9) If not being authorized under this act or otherwise, he shall communicate with any vessel placed under quarantine, or with any persons under quarantine on board any vessel or at any quarantine station, lazaret, or other place.

(10) If being a superintendent or other person in charge of, or a guard over any vessel, person, or thing performing quarantine, he shall connive at or assist in the breach of any of the provisions of this act or any regulations made under this act concerning quarantine, or shall desert from his duty.

(11) If he shall contravene any of the provisions of this act, or of any order or regulations made by the governor under the provisions of this act, concerning quarantine, in respect of which no other penalty shall have been expressly provided.

28. Any person may without warrant arrest any person who shall, contrary to the provisions of this act, or of any order or regulations made under this act concerning quarantine, have quitted or come on shore from any vessel liable to perform quarantine, or who shall have escaped from or quitted any vessel under quarantine, or from any lazaret or place appointed for performing quarantine, for the purpose of taking such person before any magistrate or justice of the peace. Any resident magistrate or justice of the peace may grant a warrant for apprehending and conveying any such person to the vessel from which he shall have come or have escaped, or to any vessel or lazaret or place appointed for performing quarantine, or for confining such person in any place of safe custody, not being a public prison, until such person can be conveyed to some place appointed for the performance of quarantine, or until directions can be obtained from the governor as to the disposal of such person. And until such person shall be conveyed to such place or the governor shall have given such directions as aforesaid, such resident, magistrate or justice of the peace may make any order that may be deemed necessary in that behalf.

29. Any health officer, or superintendent of any quarantine station or other place where quarantine is to be performed, may prescribe such measures as may be necessary for cleansing, purifying, and disinfecting any vessel in quarantine, and the passengers and crew thereof, and the cargo therein, and may order the destruction of any clothing or materials which can not be cleansed, purified, or disinfected.

30. All things liable to quarantine under this act may be opened and aired in such place and for such time and in such manner as shall be directed by the governor by any order, or by any regulations made under this act.

31. During the detention of the crew and passengers of any vessel in quarantine, whether on board or on shore, the commander or master of such vessel shall provide and supply provisions for the said crew and passengers on the same scale as during a voyage. If he shall omit to do so, provisions may be supplied by the superintendent or person in charge of the place at which such vessel is detained, and the expenses incurred in so doing may be recovered by such superintendent or other person, as a debt due from the commander or master, or the owner, or both, and such debt shall be a charge on the vessel.

PART III.—*Infectious diseases and hospitals.*

32. The governor may make regulations or give directions for all or any of the following purposes, which regulations and directions shall be acted upon by the local authority immediately any portion of the colony is affected by or threatened with small-pox, or any epidemic, endemic, infectious, or contagious disease:

(1) For house to house visitation.

(2) For the speedy interment of the dead.

(3) For the conduct and direction of the route of funerals.

(4) For providing medical aid and accommodation.

(5) For the detention and isolation of persons suffering from or under circumstances likely to be infected with such disease, and for preventing the spread of disease.

(6) For the promotion of cleansing, ventilation, and disinfection.

(7) For preventing the overcrowding of any house or part of a house so as to be dangerous or injurious to the health of the inmates, whether or not members of the same family.

Any person who contravenes any regulation made by the governor under this section, or willfully obstructs any person acting under the authority of or in carrying out any such regulations, shall upon conviction be liable to a penalty not exceeding £10, and in default of payment, to imprisonment with or without hard labor for a period not exceeding 3 months, or to both such fine and such imprisonment.

33. The local authority shall superintend and see to the execution of such regulations and directions as aforesaid, and shall appoint and pay medical or other officers or persons, and do and provide all such acts, matters, and things as may be necessary for mitigating any such disease, and for superintending or aiding in the carrying out of such regulations, or for carrying out the same as the case may require. The local authority may from time to time commence or direct any prosecution or legal proceedings for or in respect of the contravention of this act or any regulations made under this act.

34. Where any local authority is of opinion, on the certificate of any legally qualified medical practitioner, that the cleansing and disinfecting of any house or part thereof, and of any articles therein likely to retain infection, would tend to prevent or check infectious disease, it shall be the duty of such authority to give notice, in writing, to the owner or occupier of such house or part thereof, requiring him to cleanse and disinfect such house or part thereof and articles within a time specified in such notice. If the person to whom notice is so given fails to comply therewith, he shall be liable to a penalty not exceeding £10, and the local authority shall cause such house or part thereof and articles to be cleansed and disinfected, and may recover the expenses incurred from the owner or occupier in default. Where the owner or occupier of any such house or part thereof is from poverty or otherwise unable, in the opinion of the local authority, effectually to carry out the requirements of this section, such authority may, without enforcing such requirements on such owner or occupier, cleanse and disinfect such house or part thereof and articles, and defray the expenses thereof.

35. When any householder knows that a person within the house occupied by him is suffering from smallpox or any other disease declared by the governor to be infectious, he shall immediately give notice thereof to the local authority of the place in which he dwells. It shall be the duty of the medical practitioner in attendance in such case to inform the householder as early as possible of the infectious nature of the disease. Any person neglecting or refusing to comply with the provisions of this section shall be liable to a penalty not exceeding £10.

36. Any local authority may do any of the following things:

(1) Direct the destruction of any bedding, clothing, or other articles which have been exposed to infection from any infectious disease, and may give compensation for the same.

(2) Provide a proper place, with all necessary apparatus and attendance, for the disinfection of bedding, clothing, or other articles which have become infected, and may cause any articles brought for disinfection to be disinfected free of charge.

(3) Provide and maintain vehicles suitable for the conveyance of persons suffering under any infectious disease, and may pay the expense of conveying therein any person so suffering to a hospital or other place of destination.

37. When any suitable hospital or place for the reception of the sick is provided within the district of a local authority, or within a convenient distance of such district, any person who is suffering from any infectious disease, and is without proper lodging or accommodation, or lodged in a room occupied by more than one family, or is on board any ship or vessel, or who is not under medical treatment by some medical practitioner, may, on a certificate signed by a qualified medical practitioner, and with the consent of the superintending body of such hospital or place, be removed by order of any resident magistrate or justice of the peace to such hospital or place at the cost of the local authority. An order under this section may be addressed

to any constable or member of a police force, and any person who willfully disobeys or obstructs the execution of such order shall be liable to a penalty not exceeding £10.

38. Any person who (1) while suffering from any infectious disease willfully exposes himself in any street, public place, shop, inn, railway carriage, or public conveyance, or enters any public conveyance without the consent of the owner, conductor, or driver thereof, after notifying to such owner, conductor, or driver that he is so suffering; or (2) being in charge of any person so suffering, so exposes such sufferer; or (3) gives, lends, sells, transmits, or exposes any bedding, clothing, rags, or other things which have been exposed to infection from any such disease, unless the same shall have been disinfected to the satisfaction of the local authority, shall be liable to a penalty not exceeding £10, and in default of payment to imprisonment with or without hard labor for any period not exceeding 3 months; and a person who while suffering from any such disease enters any public conveyance without previously notifying to the owner or driver that he is so suffering, shall in addition be ordered by the court to pay such owner and driver the amount of any loss and expense they may incur in carrying into effect the provisions of this act with respect to disinfection of the conveyance.

No proceedings under this section shall be taken against persons transmitting with proper precautions any bedding, clothing, rags, or other things for the purpose of having the same disinfected, provided such transmission be made in accordance with the instructions of the local authority previously obtained.

39. Any person found in any road, street, or other public place suffering from smallpox, or any disease declared by the governor to be deemed contagious or infectious, may be summarily removed by any local authority or person authorized to carry the provisions of this act into operation, to the residence of such diseased person, or if he shall have none, or none in which he could be properly treated for such disease, to any public hospital or lazaret, or to any place appointed by such local authority for the reception or detention of persons suffering from contagious or infectious disease, and such person may be detained in any such hospital, lazaret, or other place, until it shall be certified by a qualified medical practitioner that he may safely be discharged.

40. Every owner or driver of a public conveyance shall immediately provide for the disinfection of such conveyance after it has to his knowledge conveyed any person suffering from an infectious disease; and if he fails to do so he shall be liable to a penalty not exceeding £10; but no such owner or driver shall be required to convey any person so suffering until he has been paid a sum sufficient to cover any loss or expense incurred by him in carrying into effect the provisions of this section.

41. Any person who knowingly lets for hire any house, room, or part of a house in which any person has been suffering from any infectious disease, without having such house, room, or part of a house, and all articles therein liable to retain infection, disinfected to the satisfaction of a qualified medical practitioner, as testified by a certificate signed by him, shall be liable to a penalty not exceeding £20. For the purposes of this section, the keeper of any hotel shall be deemed to let for hire part of a house to any person admitted as a guest into such hotel.

42. Any person letting for hire or showing for the purpose of letting for hire any house or part of a house, who on being questioned by any person negotiating for the hire of such house or part of a house, as to the fact of their being or within 6 weeks previously having been therein any person suffering from any infectious disease, knowingly makes a false answer to such question, shall be liable to a penalty not exceeding £20, or to imprisonment, with or without hard labor, for a period not exceeding 3 months.

43. Any local authority may provide hospitals or temporary places for the reception of the sick, or persons who may have come in contact with the sick, and for that purpose may (1) build such hospitals or places of reception; or (2) contract for the use of any premises for the purpose of such hospital or place of reception; or (3) enter into any agreement with any person for the reception of the sick on payment of such annual or other sum as may be agreed upon. Two or more local authorities may combine in providing a common hospital.

44. Any expenses incurred by a local authority in maintaining in a hospital, or in a temporary place for the reception of the sick (whether or not belonging to such authority), a patient who is not a pauper shall be deemed to be a debt due from such patient to the local authority, and may be recovered from him, or from his estate in the event of his dying in such hospital or place.

45. The officers of any local authority, or any person authorized in writing by any such officer, shall have power to enter on any premises for the purpose of carrying out, or superintending the carrying out, of the provisions of this act, or any regulations framed under this act.

46. Any person willfully refusing entrance to any officer of a local authority, or any

person duly authorized in writing as aforesaid, to any premises, and any person obstructing, or using foul, violent, or insulting language to any such officer or person while in the execution of any of the provisions of this act, or any regulation made under this act, shall, upon conviction, be liable to a penalty not exceeding £10, and in default of payment, to imprisonment, with or without hard labor, for any period not exceeding 3 months.

47. In case of the prevalence of smallpox the local authority may require any person within the limits over which such local authority shall have authority to give proof that such person has been successfully vaccinated, and if any person who shall not give proof of having been vaccinated shall refuse to allow himself to be vaccinated, such person shall, upon conviction, be liable successively in respect of each refusal to a penalty not exceeding £2, or, in default of payment, to imprisonment for any period not exceeding 7 days.

48. Where the body of any person who has died of any infectious disease is retained in a room where persons live or sleep, or where any dead body is in such a state as to endanger the health of the inmates of the house or room in which such body is retained, any resident magistrate or justice of the peace may, upon production of a certificate, signed by a qualified medical practitioner, order the body to be removed at the cost of the local authority to such place as such magistrate or justice of the peace may direct, and may direct the body to be buried within a time to be stated in such order; and unless the friends or relations of the deceased undertake to bury the body within the time so stated, and do bury the same, it shall be the duty of the local authority to cause such body to be buried, but any expense incurred in the removal and burial of the body may be recovered from any person who but for the removal of such body and its burial by the local authority would have been obliged to cause the same to be buried. Any person disobeying or obstructing the execution of any such order made by a resident magistrate or justice of the peace shall be liable to a penalty not exceeding £10.

49. If at any time it shall appear to the governor that any local authority has failed or neglected or refused to carry out any of the provisions of this act, or any regulations made under this act, which it was the duty of such local authority to carry out, the governor may declare all the powers and authorities vested in such local authority under this act to be thenceforth transferred and vested in such other local authority, or in a board consisting of not more than 5 persons as he may appoint, and may from time to time revoke, alter, or vary any order or direction made under the provisions of this section.

50. All district surgeons and medical officers shall give any information they may acquire in regard to the diseases referred to in this act to the local authority forthwith, and shall be bound to attend to or inspect any case or place, or report on any matter relative to this act, and the district surgeons shall be entitled to charge and receive from the local authority in all such cases a fee of 2*s.* 6*d.* for each certificate required, and other medical officers a fee of 5 shillings, actual traveling expenses to be paid in all cases over and above such fees.

PART IV.—*Vaccination.*

51. In this part of this act the words and expressions following shall have the meanings hereafter respectively attached to them, that is to say:

The word "parent" shall include the father and mother of a legitimate child and the mother of an illegitimate child.

The word "medical practitioner" shall mean a medical practitioner authorized to practice in this colony, under any law now or hereafter to be in force in this colony.

The term "lymph" shall mean lymph taken from a heifer or from a fully formed vaccine vesicle, on the day week after vaccination, and before any areola has been formed; the subject from which such vaccine lymph is taken being a healthy infant or child who has not previously been vaccinated or a healthy young heifer.

52. The colonial secretary shall at all times cause to be kept, at such places as the governor shall appoint, a supply of pure lymph for the purpose of furnishing on application and without payment to district surgeons and to medical practitioners such reasonable quantities of such lymph as may be required. The expense of providing, keeping, and supplying such lymph shall be defrayed out of moneys provided by parliament for the purpose of this act.

53. The governor may issue regulations providing for the vaccination and revaccination of persons gratuitously by the district surgeons, or persons specially appointed as vaccinators, and for appointing places for the performance of vaccination, and also for giving from time to time notice of the days and hours at which the district surgeon, or other vaccinator appointed, will attend at such place to vaccinate all persons not already successfully vaccinated who may then appear there.

54. When the operation of vaccinating or revaccinating any person over the age of 14 years is performed by the district surgeon or vaccinator appointed by the governor

without charge to such person, the district surgeon or vaccinator may require such person to attend at the same or some other place on the same day in the following week, in order that such person may be inspected and the result of the operation ascertained; and the district surgeon or vaccinator shall, if required, deliver to the person vaccinated or revaccinated who shall attend a certificate stating the result of the operation. If any such person shall fail to attend, or to permit the district surgeon or vaccinator to ascertain the result of the operation, he shall be liable to a penalty not exceeding 10 shillings.

55. The parent of every child born in this colony after the 1st day of January, 1884, shall within 12 months after the birth of such child, or when by reason of the death, illness, absence, or inability of the parent or other cause, any other person shall have the custody of such child, such person shall within 12 months after receiving the custody of such child, cause such child to be vaccinated by some medical practitioner. As often as any such child shall be taken to a district surgeon, or person specially appointed by the governor as vaccinator, such district surgeon or vaccinator shall, subject to any regulations framed by the governor, vaccinate such child without charge.

56. In every case in which a child shall be vaccinated by a district surgeon or vaccinator appointed by the governor free of charge, the parent or other person, as the case may be, having custody of such child, shall cause such child to be taken upon the same day in the following week to the district surgeon or vaccinator by whom the operation was performed, in order that he may inspect such child and ascertain by inspection the result of the operation; and, if he sees fit, take from such child lymph for the performance of other operations; and in the event of the operation being unsuccessful, such parent or other person shall, if the district surgeon or vaccinator so direct, cause the child to be forthwith again vaccinated and subsequently inspected, as on the previous occasion.

57. If any district surgeon, vaccinator specially appointed, or medical practitioner shall be of opinion that any child whom he has three times unsuccessfully vaccinated is not susceptible of successful vaccination, or that a child brought to him for vaccination has had the smallpox, he shall deliver to the parent of such child a certificate according to the fact; and the parent or such person as aforesaid shall thereafter not be required to cause such child to be vaccinated.

58. Every parent or person having the custody of any child under the age of 14 years who shall neglect to have or cause such child to be vaccinated, or, after vaccination, gratuitously to be inspected according to the provisions in this act respectively contained, or who shall refuse to permit the district surgeon or vaccinator specially appointed to remove or retain a reasonable quantity of lymph from the arm of any such child gratuitously vaccinated according to the provisions of this part of this act, and shall not in any of the said cases render a reasonable excuse for such neglect, shall, upon conviction, be liable to a penalty not exceeding £2.

59. If any resident magistrate shall have information or have reason to believe that any child under the age of 14 years within his district has not been successfully vaccinated, he may cause notice to be given to the parent or person having the custody of such child to procure its being vaccinated within a period to be stated, not being less than 7 days, and if such notice be disregarded such resident magistrate may summon such parent or person to appear with the child, before him, at a certain time and place, and if the resident magistrate shall find after such examination as he shall deem necessary, that the child has not been vaccinated nor has already had the smallpox, he may, if he see fit, make an order directing the child to be vaccinated within a certain time. If at the expiration of such time the child shall not have been vaccinated or shall not be shown to be then unfit to be vaccinated, or to be insusceptible of vaccination, the person upon whom such order shall have been made shall, unless he can show some reasonable ground for his omission to carry the order into effect, be liable to a penalty not exceeding £2. And if any parent or other person as aforesaid shall fail to appear to any such summons, or to produce such child, such parent or person shall be liable in respect of each act and successively to a penalty not exceeding £2.

60. No person who has not been vaccinated shall be appointed or, if appointed prior to the taking effect of this act, promoted to any office in the public service.

61. Every child admitted to any school which shall be maintained or aided by any grant from public funds shall be vaccinated by the district surgeon or a vaccinator specially appointed as aforesaid, unless such child shall have been previously vaccinated.

62. The governor may order the inmates of prisons, convict stations, lunatic asylums, reformatories, hospitals, and other places where the poor or sick are received, to be vaccinated upon or after their entrance, and may declare an age after which vaccination or revaccination under this section shall not be compulsory.

PART V.—*Cemeteries.*

63. No cemetery or burial ground shall hereafter be established or opened in or within the limits assigned for any city, town, or village in this colony without the leave of the governor previously obtained.

64. If it shall be made to appear to the governor that burials in any cemetery or burial ground now existing or hereafter to be established are, or are likely to be, injurious to the public health, the governor may by an order or notice to be published in the Government Gazette direct that after a time to be mentioned in such order, not being less than 6 months from the date thereof, burials in such cemetery or burial ground shall be discontinued wholly or subject to any exceptions or qualifications mentioned in the same or any subsequent order or notice, and may from time to time postpone the time mentioned in such order or notice for the discontinuance of burials, or otherwise alter or vary any such order or notice.

65. If, after the expiration of the time mentioned in any such order or notice, any person shall bury any body in, or shall act or assist in or shall suffer or permit the burial of any body in any cemetery or burial ground, or within the limits in which burials have by any such order or notice been ordered to be discontinued or prohibited, such person shall upon conviction be liable to a penalty not exceeding £50.

66. This act may be cited as the "public health act, 1883."

THE FIRST SCHEDULE.

No.	Year.	Title.	Extent of repeal.
1	1856	For preventing the spread of contagious or infectious diseases.	The whole.
16	1857	To consolidate the laws relating to quarantine and port regulations.	The quarantine regulations enacted by sections 3 to 18 inclusive, and the Schedule A.

THE SECOND SCHEDULE.

FORM OF DECLARATION OF HEALTH.

1. Name of vessel and commander or master.
2. From what port and whither bound?
3. When sailed?
4. At what intermediate ports or places touched on the voyage, and date of sailing thence?
5. With what vessel communicated during the voyage?
6. Date of each such communication.
7. Did any contagious or infectious disease prevail at the port from which you sailed? If so, what was the nature of such disease?
8. If you touched at any port or communicated with any vessel on the voyage was any contagious or infectious disease prevailing at such port, or on board such vessel? If so, state the nature of the disease.
9. Have you any sickness on board at present? If so, what is that sickness, and what number of cases have you under treatment?
10. Has any case of smallpox, or any form of eruptive skin disease, fever, scarlatina, plague, cholera, or other infectious or contagious disease, occurred on board during the voyage? If so, state the number of cases, and the dates of attack and convalescence or termination of the first and last cases of the disease.
11. Have the clothes and bedding used by those persons who have suffered from contagious or infectious disease during the voyage been either destroyed or passed through boiling water?
12. What means, if any, were adopted for preventing the spread of any infectious or contagious disease which occurred during the voyage?

I do hereby declare that the several answers to the questions contained in the above schedule are correct, and that the vessel under my command is in a perfectly healthy state.

Given under my hand this ——. day of —— 18—.

——————,
Commander or Master.

NOTE.—If the above declaration of health contains any false statement or answer to any question therein inserted, the commander or master signing the same will be liable to a penalty not exceeding £200, or in default of payment, to imprisonment with or without hard labor for a period not exceeding twelve months, or to both such penalty and such imprisonment.

If the vessel is not in a healthy state the words "and that the vessel under my command is in a perfectly healthy state" are to be erased.

NATAL.

REPORT BY CONSUL HOLLIS, OF CAPE TOWN.

PILOTAGE.

Pilotage is compulsory in all cases for vessels of all countries.
Pilot charges are the same, irrespective of the nationality of vessels.
No foreign flag enjoys any special privileges in regard to pilotage.
Vessels in distress pay no pilotage, all others do.

LIGHT-HOUSES.

The only light-house is on the bluff at the south side of the entrance of Port Natal, at an elevation of 292 feet above high water. The light-house is in latitude 29° 52′ 50″ S., and longitude 31° 3′ 35″ E. The building is an iron tower in the form of a frustrum of a cone, 81 feet high; center of light being 70 feet above the base, exhibiting a revolving white light of the second class, dioptric, attaining its greatest brilliancy once every minute from sunset to sunrise. It is visible in all directions from N. round by E. and S. to S. 59° W., and can be seen at sea from a ship's deck 24 miles in clear weather. All vessels entering inwards at Port Natal pay 2 pence per ton up to 500 tons register, and 1 penny per ton for every ton over 500 tons.

GEO. F. HOLLIS,
Consul.

UNITED STATES CONSULATE,
Cape Town, January 10, 1890.

Natal Harbor Board—Slip rules and tariff.

[Inclosure in Consul Hollis's report.]

CONDITIONS.

1. No vessel shall be taken on the slip until her name and all necessary particulars shall have been entered in a book kept for that purpose at the port office, nor until the master or person in charge, or her agents, shall have signed an application to that effect, with an undertaking to conform to the conditions set forth herein.
2. No vessel shall remain on the slip for a longer period than 10 days, unless by special arrangement; but should circumstances arise not known at the time the vessel was slipped, requiring a longer occupation thereof, permission may be given by the port captain for such further time as may be requisite for the completion of the work.
3. On failure to place a vessel on the slip, for which she has been booked, on the day appointed for the purpose, such vessel shall, if the slip be required, lose its turn on the list; the owner, master, or agent of such vessel shall be liable to pay to the board the expenses, if any, which the board may have incurred in preparing the slip for her reception.
4. No vessel shall be broken up, or commenced to be broken up while on the slip, without the consent of the board, signified in writing under the hand of the secretary of the board; penalty, £10.
5. The port captain may, in his discretion, allow any vessel which shall have arrived in the harbor in a distressed or leaky condition to go on the slip before all other vessels standing in the entry book.
6. No displacement of weights, in any way connected with a vessel while on the slip, will be permitted, without permission in writing from the officer in charge, when arrangements will be made to prevent any damage occurring by reason of such displacement; the vessel in all cases taking all risks and being charged with the cost of such arrangements; penalty, £10.

7. The master of any vessel using the slip shall give the port captain 24 hours' notice in writing of his readiness to leave the slip.
8. In cases of unlicensed craft the vessels will be put into position by a pilot; in other cases this will be done by the master.
9. When any vessel shall be declared by the officer in charge of the slip to have been properly and safely placed upon the blocks or cradle, the master of the vessel, or his representative, shall fortwith satisfy himself thereof, and, if he shall make no objection thereto, to the officer in charge of the slip, the vessel shall be considered to have been properly and safely placed.
10. That the board shall not be liable for any damage which may happen to the vessel whilst on the slip, or being taken up, or being launched therefrom, nor for any delay; and the vessel shall not be liable for any damage done to the slip or appurtenances, unless in disregard of any of these conditions.
11. No removal or alteration in position of any of the supports upon which the ship rests whilst on the cradle will be permitted, except it is performed by orders of the officer in charge of the slip; penalty, £10.
12. No vessel, barge, lighter, boat, craft, or material shall be anchored or moored at any spot over the water area occupied by the slipway, and which area is denoted by marks placed for that purpose; penalty, £10.
13. No person shall willfully or negligently place any chain, anchor, or any other obstacle whatever, on the submerged or any other portion of the slipway or its area as above defined; penalty, £10.

PENALTY.

14. Any person contravening any of the above regulations is liable, on conviction, to a fine not exceeding the sum mentioned in the regulations, or to imprisonment for any period not exceeding three months, with or without hard labor, unless the fine shall be previously paid.

SECTION I.—*Vessels arriving at this port.*

CHARGES.

	£	s.	d.
1. For taking up and launching from the slip, per ton register gross, including days of taking up and launching	0	2	0
2. The minimum charge for the above, however, to be in no case less than	15	0	0

RENT.

3. Vessels of 250 tons and under, for every twenty-four hours' occupation of the slip	6	0	0
4. Vessels above 250 tons, for every twenty-four hours' occupation of the slip, at per ton register gross	0	0	6

5. A reduction of 10 per cent. will be allowed on the above charges, except in the case of a vessel receiving the reduction under the next clause.
6. All vessels taken on the slip for the purpose of inspection, or cleaning and painting, or for other small repairs, provided that the time occupied does not exceed five days in all, will be allowed a reduction of 50 per cent. on the above charges. Such vessels shall not participate in the 10 per cent. reduction referred to in the previous clause.
7. Provided, however, that in the case of the slip being required for the use of any vessel of Her Majesty's fleet, or of the fleet of any friendly power, a rebate of 50 per cent. on the foregoing charges shall be allowed in respect of the use of the said slip.

SECTION II.—*Vessels registered or locally licensed at this port.*

CHARGES.

	£	s.	d.
8. For taking up and lowering vessels under 150 tons, per ton	0	2	0
9. The minimum charge to be in no case less than	10	0	0
10. Vessels of 150 tons and upwards, per ton	0	2	0
11. The minimum charge in no case to be less than	15	0	0

RENT.

12. Vessels of 150 tons and under, for every twenty-four hours' occupation of the slip	3	0	0
13. Vessels above 150 tons and up to 200 tons, for every twenty-four hours' occupation of the slip	4	0	0
14. Vessels above 200 tons and up to 250 tons, for every twenty-four hours' occupation of the slip	5	0	0
15. Vessels above 250 tons, for every twenty-four hours' occupation of the slip, per ton	0	0	6
16. A reduction of 10 per cent. will be allowed on the above charges, except in cases where vessels come under the charge made in the last clause (19).			
17. Tonnage in all cases to be deemed gross tonnage.			
18. The twenty-four hours, or any part thereof, to be calculated as from the time the vessel is placed on the slip to the time when the lowering is completed.			
19. Locally licensed vessels up to 150 tons, taken on the slip for the purposes of cleaning and painting only, and remaining for five days, including days of taking up and launching	20	0	0

By order of the board.

W. H. EVANS,
Secretary.

OCTOBER, 1888.

Quarantine laws at Natal.

[Inclosure 2 in Consul Hallis's report.]

LAW OF 1882.

Whereas it is expedient to amend the law, No. 3, 1858, relating to quarantine, by giving power to the governor to declare from time to time, by proclamation, that every vessel arriving at or off any port of this colony, from any place in which he shall be informed, or has reason to believe, that any contagious or infectious disease is prevalent, shall perform quarantine:

Be it therefore enacted by the governor of Natal (by and with the consent of the legislative council thereof) as follows:

1. As often as the governor, with the advice of the executive council, shall by proclamation notify that any place or places, whether on this continent or beyond the seas, is or are infected with any contagious or infectious disease dangerous to the public health, and that it is probable that such disease may be brought from such place or places to the colony of Natal, then, and immediately from and after such notification, all ships and vessels whatever arriving from or having touched at any such place or places, shall be, and considered to be, liable to quarantine within the meaning of the law No. 3, 1858, and of any order made or hereafter made by the governor, with the advice of the executive council, and notified by proclamation, concerning quarantine and the prevention of infection, or of any rules and regulations made under and by virtue of law No. 2, 1882, entitled law "to confer upon the Natal Harbor board certain powers in relation to quarantine."

2. It shall be lawful for the governor, with the advice of the executive council, from time to time, to make such orders or rules as may be deemed necessary to meet exceptional cases, and to determine whether and under what circumstances any ship or vessel may be partially or wholly exempted from the operation of the first section of this law, although such ship or vessel may have touched at any such place or places as are referred to in that section.

LAW OF 1883.

Whereas it is expedient to repeal section 1 of law No. 10, 1859, entitled "Law to amend the law No .3, 1858, entitled 'law to amend the law relating to quarantine,' and to confer upon the governor in council certain powers to relax the quarantine regulations in the cases of Her Majesty's ships of war:"

Be it therefore enacted by the governor of Natal (by and with the advice and consent of the legislative council thereof) as follows:

1. Section 1 of law 10, 1859, shall be and the same is hereby repealed.

2. When any of Her Majesty's ships of war anchoring or arriving at Port Natal shall be unable to obtain pratique in consequence of the illness of any person on board any such ship of war, or shall arrive from or shall have touched at any port declared by the governor in council to be an infected port, and shall have undergone examination by the health officer or other competent officer acting for him, and upon a report of such examination being made to the governor in council, his excellency shall, if he think proper, direct the local quarantine authority to release such vessel or vessels from the performance of quarantine, and thereupon the local quarantine authority shall release such vessel absolutely, or upon such conditions as may be approved by the governor in council, and shall grant to the master or person having command of such vessel a certificate in writing of such examination and release. Upon the production of such certificate to the port captain, or other port official appointed for the purpose, such vessel shall be allowed to communicate with the shore for the purpose of coaling, taking in water, wood, or stores, or for the purpose of embarking and disembarking troops and the equipments belonging thereto.

3. The term "ships of war" shall mean and include vessels engaged exclusively for the conveyance of Her Majesty's naval or military forces or stores.

4. This law shall commence and take effect from and after the date of the promulgation of Her Majesty's assent thereto in the Natal Government Gazette.

Law of 1884.

Whereas it is expedient in the interests of public health to make provision for the enforcement of quarantine regulations on the inland borders of the colony of Natal:

Be it therefore enacted by the governor of Natal (with the advice and consent of the legislative council thereof) as follows:

1. It shall be lawful for the governor, from time to time, to appoint such quarantine stations as he may deem necessary at places on or near the inland borders of the colony, to direct lazarets to be constructed and maintained, and to make such regulations as he may deem meet respecting the placing in quarantine of persons, goods, letters, wares, or merchandise; to appoint all such officers as he may consider necessary for the purpose of carrying such regulations into effect; and to make regulations concerning quarantine and the prevention of infection, and issue such orders and give such directions as shall appear to be necessary to cut off all communication between any person infected, or under the circumstances likely to be infected, with any contagious or infectious disease, and the rest of the inhabitants of the colony.

2. The governor in council is hereby authorized to pay out of the general revenue all such moneys as may be necessary for defraying the costs incurred in the construction and maintenance of such lazarets, and all incidental expenses connected with the up-keep of such establishments and the maintenance of and medical attendance on any persons placed in quarantine under the provisions of this law.

3. The governor in council is also hereby empowered to fix penalties for contraventions of any of the regulations framed under this law: *Provided*, That no fine imposed by such regulations shall exceed £20, or in default of payment imprisonment with or without hard labor for 3 months.

4. Any person who shall wilfully and knowingly introduce or bring into the colony any person suffering or laboring under smallpox, or any other disease defined by proclamation to be infectious, shall be guilty of an offense under this law, and upon conviction shall be liable to a fine not exceeding £100, or in default to imprisonment for any period not exceeding 6 months. All offenses so committed under this section shall be prosecuted by indictment by the attorney-general in the usual manner before the supreme court or any circuit court.

5. For the purposes of this law the resident magistrates of the colony of Natal shall respectively have jurisdiction over all contraventions of by laws or regulations made under this law, and made cognizable by the resident magistrate, although such resident magistrate may otherwise have no jurisdiction in the place where the contravention was committed.

6. All penalties incurred under by laws or regulations made under this law shall be paid to Her Majesty, her heirs, and successors, and unless partly or wholly remitted shall be applied to the uses of the government of the colony.

Law of 1884.

Whereas it is expedient to amend law No. 4, 1882, entitled law "to amend the law No. 3 of 1858, relating to quarantine, and to give power to the governor to declare an infected port or ports:"

And whereas it is also expedient to make provision for the payment by owners or masters of vessels of expenses incurred at the public quarantine station in connection with the maintenance of passengers or crews of such vessels as may be placed in quarantine at the in tance of the quarantine authority at the port:

Be it therefore enacted by the governor of Natal (with the advice and consent of the legislative council thereof) as follows:

1. From and after the coming into effect of this law, the provisions of the said law No. 4, of 1882, shall, in addition to the cases therein referred to, be deemed to apply to any port from which any vessel has arrived at Port Natal having any malignant disease of an infectious or contagious nature on board, or on board of which any such disease may have appeared in the course of the voyage.

2. In every case in which any of the passengers or crew of a vessel placed in quarantine under the provision of section 13 of law 3, 1858, shall be transferred from such vessel to any public quarantine station, the owner or master of such vessel shall be liable for the payment of expenses connected with the feeding of such persons during the period such persons shall be quarantined in such station: *Provided*, That this section shall not apply to the cases of Indian immigrants introduced into the colony at the instigation and expense of the government of Natal, nor to the crews of vessels conveying such Indian immigrants, if the contagious disease from which the crew of the vessel is or may have been suffering was not introduced into the vessel by any member or members of such crew, but had broken out in the first instance amongst the passengers. And in case the disease shall have been introduced into the vessel by any member or members of the crew, or shall have broken out in the first instance amongst the crew, the owner or master of the vessel shall be liable for the expenses incurred, as aforesaid, in regard to passengers, as well as the crew placed in the quarantine station.

3. All expenses incurred under the last preceding section shall be recoverable in any competent court in the colony.

MAURITIUS.

[The harbor master of Port Lewis to Consul Thomas

PILOTAGE.

Pilotage is compulsory for all vessels entering the harbor over 100 tons register.

Pilot charges are the same for all vessels, whether they be British or foreign. No foreign flag enjoys special privilege in this regard.

Vessels in distress pay pilotage, but are exempted under certain conditions from anchorage and other dues. Tariff of customs and port dues, steamers calling merely for taking coal, provisions, or water, are charged only one quarter of the ordinary pilotage, viz, 3 cents of a rupee per ton, register tonnage.

British and all foreign war ships, transports, and vessels, belonging to the government of Mauritius are exempted from paying pilotage.

LIGHTS AND LIGHT DUES.

Light dues are charged to all merchant vessels, whether they be steam or sailing vessels, laden or in ballast, at the rate of 5 cents of a rupee per register ton. These dues shall not be levied more than twice within 12 calendar months on any one vessel. No exemption is made in the event of any light being temporarily suppressed or extinguished; such an eventuality, however, is unlikely to occur.

There are three light-houses and one light-ship on the coasts of Mauritius, situated as follows: One light house is erected on the Isle of Fouquets, in latitude 20° 23′ 34″ S., and longitude 57° 46′ 12″ E.; it marks the entrance to Grand Port, and is 800 yards to the ENE. of Ile de la Passe; it is about 3 miles to the eastward of the nearest point of the

mainland. The apparatus a dioptric of the first order, showing a fixed white light from sunset to sunrise, visible in any direction from seaward. The light (focal plane) is 108½ feet above the mean sea level (the rise of the tide on all parts of Mauritius being about 3 feet), and in clear weather can be seen at a distance of 16 nautical miles from the deck of a vessel 12 feet above the water.

Flat Island, situated at 7 miles from the nearest point of the mainland, has a revolving catoptric light of the first order, at an elevation of 365 feet above mean sea level, and is visible from the deck of a vessel 13 feet above the water, at a distance of about 25 nautical miles.

Cauduiers Point has a fixed catoptric light of the first order; its elevation is 89½ feet above mean sea level, and can be seen from the deck of a vessel 14 feet above the water at a distance of about 10 nautical miles.

The lightship is anchored in the roadstead of Port Louis in about 15 fathoms of water and about half a mile from the mainland. It shows a flashing white light from sunset to sunrise, visible about 9 miles in any direction from seaward from the deck of a large ship.

Light dues are collected through the custom-house. There is no discrimination in favor of or against vessels of the United States. Vessels belonging to the colony are charged the same rates as other vessels. Coasting vessels pay no light or other dues, further than an annual license. Only small crafts of 10 to 50 tons register are employed in this trade.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels, whether employed in the foreign or intercolonial trade, whether laden or in ballast. There is no discrimination in regard to flag. No nationality enjoys special privileges.

QUARANTINE.

Quarantine is imposed on all vessels having a contagious or infectious disease on board.

Quarantine is also imposed on a ship which has communicated with a place or with a ship with such disease existing on board as follows: (1) For cholera, twenty-one days; (2) smallpox, twenty-one days; (3) typhus, yellow fever, or other contagious disease, fifteen days, or such other period not exceeding twenty-one days as may be ordered by the general board of health.

The ship bears the expense of detention of vessel; the Government bears the expense of fumigation as to passengers and cargo.

The quarantine laws are established by the local government when approved by the Imperial Government.

A copy of the port, customs, and quarantine regulations is herewith annexed; also a copy of the tariff of customs and harbor dues.

J. WILSON,
Harbor Master.

COLONIAL SECRETARY'S OFFICE,
Mauritius, April 11, 1890.

Harbor dues—Charges leviable on all vessels entering the harbor of Port Louis.

[Ordinance No. 18, of 1884-1885.]

		*Rs.	C.
(1)	*Pilotage:*		
	For pilotage inwards, and mooring .....per ton of register..	0	12
	For unmooring, and pilotage outwards.....do.....	0	12
	For the pilotage, mooring, and unmooring of any steam vessel receiving a subsidy from this colony for the carriage of mails:		
	If the mail service be monthly .....per month..	75	00
	If the service fortnightly .....do....	150	00
	For the pilotage inwards and mooring of any steamer entering the harbor merely for the purpose of taking coals, provisions, or water, per ton of register.....	0	03
	For the unmooring and pilotage outwards of any such steamer, per ton of register	0	30
(2)	*Towage:*		
	For every vessel not above 100 tons.....	20	00
	For every vessel above 100 and not exceeding 200 tons.....	25	00
	For every vessel above 200 and not exceeding 400 tons per ton of register	0	15
	For every vessel above 400 tons:		
	For the first 400 tons.....	60	00
	For every ton in excess of 400 tons.....	0	05
(3)	*Anchorage:*		
	For every vessel breaking bulk or receiving cargo, per ton of register..	0	20
	(The total amount charged under this head shall not exceed 150 rupees.)		
	For every vessel trading with Madagascar, Réunion, or the dependencies of Mauritius, per ton of register.....	0	07
	(This charge shall not be levied more than twice a year.)		
	For every vessel not breaking bulk nor receiving cargo per ton of register	0	05
	(The total amount charged under this head shall not exceed 75 rupees.)		
	For moving any vessel from one berth to another in the harbor, per ton of register	0	05
	(The total amount charged under this head shall not exceed 30 rupees.)		
	For swinging any vessel alongside of a hulk	10	00
	For remooring any vessel.....	10	00
	For any vessel remaining swung on warps above twenty-four hours; or above forty-eight hours when the harbor master has certified in writing that the vessel was prevented by unfavorable winds from leaving the harbor at the end of twenty-four hours after having been swung:		
	If under 100 tons.....per diem..	10	00
	If of 100 tons or more .....do....	30	00
(4)	*Hire of chains, anchors, and boats:*		
	For every vessel not above 150 tons:		
	One anchor.....per diem..	0	50
	One chain.....do....	0	50
	For vessels above 150 tons:		
	One anchor.....do....	1	25
	One chain.....do....	1	25
	For the use of mooring chains or anchors placed around Trou Fanfaron:		
	For each vessel not above 100 tons .....per diem	0	50
	For each vessel above 100 tons and not above 400 tons .....do....	1	00
	For each vessel above 400 tons .....do....	2	00
	For the use of a launch (manned).....do....	15	00

EXEMPTIONS.

No anchorage dues shall be charged on vessels entering the harbor in distress, or for repairs, if they do not break bulk or receive cargo; or if they discharge cargo solely for the purpose of repairs and the whole of such cargo be reshipped—except such portion thereof as may be condemned as being damaged.

No anchorage dues shall be charged on steamers or other vessels receiving a subsidy from the colony for the carriage of mails, or chartered either by the imperial or the local government for any other purpose.

No pilotage or anchorage dues shall be charged on the following vessels:

(1) British or foreign men-of-war or transports, and vessels belonging to government of Mauritius.

(2) Vessels breaking bulk at the bell buoy, and discharging cargo to the extent of not more than 25 tons, or landing not more than five horses, mules, donkeys, or horned cattle, or twenty sheep, pigs, or goats.

(3) Immigrant vessels landing coolies or surplus stores from the bell buoy.

(4) Vessels touching at Port Louis without entering the harbor, on their way to some other port.

* Rupees = 40.4 cents.

Light dues.

LOCAL LIGHT DUES.

[Ordinance No. 22, of 1855, and proclamation No. 6, of February 14, 1855.]

	Rs.	C.
There shall be levied on all vessels (excepting coasters employed on the coast of Mauritius) entering the harbor, or discharging or shipping cargo or immigrants in the roadstead of Port Louis.....per ton..	0	05
(The above dues shall not be levied more than twice within twelve calendar months on any one vessel.)		

LIGHT DUES FOR THE GREAT BASSES LIGHT-HOUSE AND THE LIGHT BASSES LIGHTSHIP.

[Ordinance No. 23, of 1883, section II.]

For every ton of register of the vessel liable to the dues.....	0	07½

LIGHT DUES FOR THE MINICOY LIGHT-HOUSE.

[Ordinance No. 23, of 1883, section III.]

For every ton of register of the vessel liable to the dues.....	0	02½

SIERRA LEONE.

REPORT BY VICE-CONSUL MAY.

PILOTAGE.

Pilotage was compulsory on all vessels, but by an order in council dated September 18, 1889, compulsory pilotage is now abolished.

Pilot charges 5*s.* per foot inwards, 2*s.* 6*d.* outward, are the same on all sea-going vessels.

No foreign flag enjoys special privilege.

Vessels in distress, claiming and receiving a pilot's services, pay pilotage. Ships of war are exempted from paying pilotage.

LIGHTS AND LIGHT DUES.

The dues collected on light are 3 pence per ton, and are made payable at Freetown and Sherbro, the only two ports of entry. The Cape light-house affords light to vessels going to Sherbro as well as to those entering the Freetown Harbor. No dues are payable at more than one port in the colony during the same voyage.

The general character of the lights is as follows:

On Cape Sierra Leone, 8° 30′ N; 13° 17¾′ W. An upper light, white; fixed and flashing every one-half minute. Elevation, 75 feet; range 14 miles. A lower light, red, fixed. Elevation, 52 feet, covering the Carpenter Rock, visible from N. 84½° E. to S. 70½° E.

A harbor light, fixed. Green, on goverment wharf. Elevation, 23 feet; range 5 miles.

Rate charged is 3 pence per ton, not per foot, and is collected through the custom-house. There is no discrimination whatever in favor of any vessel.

An annual rate for light dues is charged colonial registered vessels of 100 tons and upwards. The rate charged vessels of the United States is the same charged colonial registered vessels.

TONNAGE DUES.

The collection of tonnage dues was abolished by local ordinance No. 13 of 1881.

QUARANTINE.

The duration of quarantine is subject to the decision of the quarantine board. Ship bears all expenses.

The rules are established by the colonial government and approved by the governor in council on November 7, 1888.

CORNELIUS MAY,
Vice-Consul.

UNITED STATES CONSULATE,
Sierra Leone, November 14, 1889.

[Inclosure in Vice-Consul May's report.]

SIERRA LEONE QUARANTINE RULES.

Rules approved of by the governor in council for the more effectual carrying out of the provisions of the quarantine law No. 18 ***of*** 1882.

[Framed in accordance with the provisions of the 5th and 38th sections of ordinance No. 18 of 1882.]

1. Ships placed in quarantine by the harbor master or visiting officer are to hoist the yellow flag at the foretop-gallant masthead and are taken up at anchorage without delay in the quarantineg round, where they are to remain until released by order of the quarantine board.
2. The quarantine ground shall be pointed out by the visiting officer.
3. A constable is to be placed on board each ship in quarantine and is to see that all rules and regulations in respect of quarantine are strictly carried out.
4. No ship in quarantine shall be allowed to anchor within 100 yards of the center of the quarantine ground. During the observance of quarantine, a quarantine boat or a buoy shall be moored to mark the center of the quarantine ground.
5. Lighters or boats conveying cargo or other supplies to ships in quarantine may, with the assent of the quarantine board or of the harbor master or visiting officer, be towed to the quarantine boat or buoy; and to prevent personal communication with the ships in quarantine, all persons on board such boats or lighters must then quit them and return outside the limits of the quarantine ground.
6. The boats or lighters so left may be towed alongside the ship in quarantine by the ship's crew and unloaded, but no packages are to be returned to the boats or lighters from the ship. When the boats or lighters are empty, they are to be towed back by the crew of the ship to the quarantine boat or buoy, and after the men so employed have left them, the persons who may be in charge of such boats or lighters may proceed to the quarantine boat or buoy to fetch them away.
7. Ships may be coaled in the following manner, viz: The lighters or boats containing the coal may be towed or otherwise worked alongside the quarantine boat or buoy and fastened thereto, the persons working such lighters or boats and the ship's crew thereafter complying with the last two preceding rules in like manner as if the coals were goods or provisions.
8. All boats belonging to ships in quarantine are to hoist a yellow flag in the bow when absent from their ships.
9. Passengers in ships that are placed in quarantine may, with the sanction of the quarantine board, be landed, under the instructions and supervision of the visiting officer, in the ship's boats at such lazaretto or place as may be pointed out by him, and there undergo such a period of detention as may be considered necessary by the quarantine board.
10. Cases of sickness among the crew or passengers of ships in quarantine may, with the sanction of the quarantine board and under the instructions and supervision of the visiting officer, be landed in the ship's boats at the lazaretto.
11. No articles of clothing or bedding that have been used in cases of diseases shall be permitted to be landed.
12. The mail bags from a ship in quarantine shall, before being landed, undergo such process of fumigation as the visiting officer may consider necessary.
13. Any person who may have died on board a ship in quarantine shall be buried in such place as shall be approved of by the quarantine board and pointed out by the visiting officer.
14. In case of a ship in quarantine proceeding to sea the constable shall be previously landed at the lazaretto. The pilot who accompanies the ship to sea shall pro-

ceed on his return to the lazaretto, and both constable and pilot shall remain there in quarantine for the same period as the ship would have been kept if she had remained at anchor.

15. In cases where the quarantine board may think that the nature of the contagious or infectious disease is such as to render it unnecessary to keep the ship in which any case of such disease shall have occurred in quarantine for so long a period as 14 days, or if there be other circumstances to justify any shortening of the period of 14 days of quarantine, the quarantine board may, if they shall think fit, admit a vessel to pratique at any earlier period than the period of 14 days provided in section 17 of ordinance No. 18 of 1882.

16. Any person who may be found guilty of any infringement of any of these rules or regulations shall be subject to a penalty not exceeding £20.

17. All rules made previously to the passing of these rules are hereby canceled.

Rules for the collection of maintenance money from persons placed in the lazaretto.

[Framed in accordance with the provisions of the 30th section of ordinance No. 18 of 1882.]

1. If at any time by reason of the failure to comply with any rule of the board or on account of any other sufficient reason it shall be found impracticable to receive passengers that are on board a ship placed in quarantine into the lazaretto or other place that may be approved of by the quarantine board, such passengers will be required to remain on board until the ship is released from quarantine or until arrangements can be made for removing them from the ship.

2. No passenger or other person on board a ship in quarantine will be allowed to leave the ship for the purpose of being landed at the lazaretto, or other place that may be approved of by the quarantine board, before payment has been made or guaranteed to be made to the visiting officer of the amount payable in accordance with the scale shown in the rule next following for the maintenance of such passenger or other person during the period of detention in quarantine.

3. The following is the scale of charges for maintenance of persons detained in quarantine:

		s.
For first-class passengers at the rate of	per diem	10
For second-class passengers at the rate of	do	5
For deck passengers at the rate of	do	1
Children according to class: Eight years of age and under twelve years, half rates; three years of age and under eight years, quarter rates; under three years of age, free.		
Officers of ships to be charged	per diem	10
Members of crew:		
Europeans	do	5
Kroomen	do	1

Rules for the government and direction of the lazaretto.

[Framed in accordance with the provisions of the 30th section of ordinance No. 18 of 1882.]

1. The following rules for the government and direction of the lazaretto at Kissy shall be binding upon the officers, servants, and inmates of the quarantine establishment.

2. During the existence of quarantine restrictions at the lazaretto, the quarantine establishment shall be under the direction of the inspector of health of shipping for the port of Freetown for the time being.

3. It shall be the duty of the inspector of health of shipping during the continuance of such restrictions to visit the lazaretto as frequently as may be deemed necessary with a view to ascertain the health of the inmates, and in case of the existence or outbreak of any contagious or infectious disease or plague, cholera, smallpox, or yellow fever, the inspector of health of shipping shall be empowered to take all necessary measures to secure the separation and isolation of those who are sick of any such infectious disorder from those who are well.

4. It shall be the duty of the superintendent to take charge and care of the equipment of the lazaretto, to receive and issue stores and to superintend the ordering and preparation of meals, to direct and control the nurses and domestic servants placed under him and to maintain the cleanliness of the wards and domestics.

5. The inmates of the lazaretto are strictly enjoined not to damage or destroy the property of the institution.

6. The inmates are also strictly enjoined to observe the sanitary arrangements that may be made by the medical officer and the domestic arrangements made by the superintendent, and in case of the violation of any such arrangements any such inmate shall be liable to fine or penalty not exceeding £10.

7. Smoking within the dormitories is strictly prohibited under a fine or penalty not exceeding 40*s*.

8. All lights in dormitories, other than those sanctioned by the medical officer, shall be extinguished at 10 p. m., after which hour all loud conversation, singing, or noise must cease, and quietude conducive to sleep must be maintained during the night. Any person violating this rule shall be liable to a fine or penalty not exceeding £5.

9. The constable placed on duty at the lazaretto shall see that the foregoing rules 5, 6, 7, and 8 are strictly observed.

Approved by the governor in council on the 7th of November, 1888.

J. S. HAY,
Administrator-in-Chief.

ST. HELENA.

REPORT BY CONSUL COFFIN.

PILOTAGE.

There is no pilotage at this port.

LIGHT DUES.

There are no light dues or lights.

TONNAGE DUES.

There are no tonnage dues, but there is a cargo due of one shilling per ton on all cargo landed at this port, also on all cargo shipped from this port. For instance, a ship of 1,000 tons lands 20 tons of cargo here, she pays 20 shillings; if she receives from this port any cargo, she pays at the same rate on the cargo received.

There is no discrimination as regards nationality.

No vessels enjoy special privileges.

QUARANTINE.

All vessel arriving with infectious or contagious diseases on board are placed in quarantine and kept so until their departure. This does not prevent the vessel from obtaining supplies.

Measles, whooping cough, smallpox, cholera, scarlet and yellow fever, and all other malignant diseases of an infectious or contagious nature.

Disinfectants are provided and paid for by the government.

Ships pay the expense of guard and boat, 30 shillings for twenty-four hours.

A vessel is required to be clear of disease forty days previous to her arrival at this port in order to get free pratique.

All persons quarantined are sent to the quarantine depots, and pay their own expenses.

Owners of cargo quarantined pay all expenses.

Quarantine rules are established by the general government, and carried on under the supervision of the government's medical office.

There are trading boats licensed to supply passing ships, which would not call, with vegetables. These boats are controlled by the custom-house, and have the same form of questions to ask before boarding a ship as the health officer, and are not allowed to board a vessel having on board an infectious or contagious disease, or coming from an infected port. But as these boats often board ships 10 to 15 miles away

from the port, and their crews might neglect to conform with the law in their anxiety to sell their goods, therefore from a sanitary point of view the ordinance permitting them to board passing ships does not meet the approval of many of the people here, as they fear that at some time they will bring some contagious disease ashore with them.

JAMES B. COFFIN,
Consul.

UNITED STATES CONSULATE,
St. Helena, October 15, 1889.

EGYPT.

REPORT BY CONSUL-GENERAL SCHUYLER.

PILOTAGE.

It is not compulsory at Alexandria for any vessel to take a pilot inwards through the pass as far as the anchorage. But in order to place the ship alongside of the quays it is necessary to employ a pilot. Going outwards the employment of a pilot is not compulsory.

In the Suez Canal every vessel is bound to take on board the pilot of the company, who will furnish all particulars as to the course to be steered; although the captain is held responsible for all groundings and accidents, of whatsoever kind, resulting from the management and maneuvering of his ship by day or by night.

The pilotage dues in the Suez Canal are for entry:

From the outside roads to the basin of Radoul, about $15.

From the outside roads to one or the other basin, about $10.

From one basin to another, about $5.

For exit:

From one basin or the other to the exterior wall, about $5.

If this same boat has not paid entrance fee, about $10.

Pilot charges are the same for vessels of all countries, except for Turkish sailing vessels, which pay a reduced rate, on the ground of Egypt being a vassal of the Ottoman Empire.

No foreign flag enjoys special privileges in this regard.

Vessels in distress and foreign war vessels pay pilotage the same as others if they take pilots.

LIGHTS AND LIGHT DUES.

Light dues are payable for the Mediterranean at Alexandria and Port Said. The rate is $3\frac{3}{4}$ cents per Turkish ton up to 800 tons and $1\frac{2}{3}$ cents per ton beyond that at the port in the same voyage.

Red Sea light dues are collected at Port Said and Suez, at the rate of 2 Egyptian piasters (10 cents) per ton up to 800 tons, and 1 piastre tariff (5 cents) beyond this, at the port only for the same voyage.

All vessels pay the same dues, but vessels carrying foreign mails have a reduction of 5 per cent. Men-of-war, transports, and yachts are exempt from dues; also commercial ships not over 10 tons.

Light dues are collected through ships' agents.

The general character of the lights, of which there are 8 in the Mediterranean and 9 in the Red Sea, may be seen from the following tables:

Egyptian lights in the Mediterranean.

Name of light.	Situation.	Latitude (north).	Longitude (east).	Sort and class of light.	Fixed or flashing and color.	Miles visible.	Height above the level of the sea.	Intervals between turns or flashing of the light.	Kind and construction of the light-house.	Date of erection.
		° ′ ″	° ′ ″				*Feet.*			
Alexandria	Eunostos, or Ras el Tin Point.	31 11 43	29 51 40	Lenticular, first order.	Revolving white..	20	180	20 seconds ..	Stone, round tower...	1848
Brises-lames (breakwater.)	Southwest extremity of the Brises-lames, or breakwater.	31 10 10	29 50 30	Fourth order	Fixed red.....	10	65	.....	Iron tower painted yellow.	1876
Gabbari	Extremity of the Mole	.....	.....	....do.....	Fixed white	5	30	.....	Open iron tower	1877
El Amalda	Near Arab Towers ...	3 05 10	29 11 10	First order	....do	22	187	.....	Iron tower, painted gray, tripod.	1873
Rosetta	Mouth of Nile	31 29 30	30 19 10	....do	Revolving white and red alternately.	20	180	10 seconds ..	....do	1868
Broullos	Cape of Broullos.....	31 35 20	31 9 0	....do	Fixed white	20	180	.....	....do	1868
Damietta	Mouth of Nile.....	31 31 40	35 51 0	....do	Revolving white..	20	180	60 seconds ..	....do	1868
Port Saïd	On the beach of west breakwaters.	31 15 41	32 18 45	Electric, first order.	White flashing ...	25	180	3 seconds ...	.....	1869

Egyptian lights in the Red Sea.

Suez high light	North shore of the Suez Bay.	29 57 20	32 32 45	Dioptric, sixth order.	Fixed white	10	40	.....	Mast, upper part black, arch illuminat on.	1880
Small light at entrance ..	Mouth of Suez.....	29 57 0	32 34 20	....do	....do	5	20	.....	Iron tower, lattice work.	1885
Floating zenobia light...	New Port Rock.....	29 53 30	32 32 45	....do	....do	12	52	.....	Pontoon, with mast painted red, New Port Rock written on both sides.	1856
Zaffarana	Zaffarana Point.....	29 6 30	32 39 40	Dioptric, first order.	....do	14	83	.....	Stone tower	1860
Ras Gharib	Ras Gharib Point	28 20 40	33 6 0	....do	....do.....	20	165	.....	Iron tower, tripod form.	1871
Ashrafi	Ashrafi Reef, Straits of Jubal.	27 48 0	33 43 0	....do	Revolving white..	20	125	60 seconds..	Iron tower, lattice work.	1862
Shadwan	Southeast extremity of the Isle of Shadwan.	27 26 53	34 2 22	Dioptric, second order.	Red and white alternate flashes.	20	120	30 seconds..	Round stone tower ...	1889
Deux frères (two brothers).	Two Brothers, North Rock.	26 18 50	34 50 34	Dioptric, fourth order.	Fixed white	12	71	.....	....do	1883
Dœdalus	Dœdalus Reef	24 56 0	35 51 0	Dioptric, second order.	....do	14	61	.....	Iron tower, lattice work.	1863

TONNAGE DUES.

Tonnage dues are collected from all vessels, whether in the foreign or coasting trade, laden or in ballast, except from yachts, vessels of war, and vessels putting into port in distress under certain conditions.

There is no discrimination with regard to flag.

No vessels of any nationality enjoy any special privileges.

QUARANTINE.

The rules about quarantine will be found in the pamphlet entitled "Conseil Sanitaire, Maritime et Quarantenaire d'Egypte, Règlements révisés," which accompanies this report in a separate cover.

In general every ship arriving in an Egyptian port must be inspected by the sanitary authorities before holding any communication with the shore. Every ship must have a bill of health in correct form.

The quarantine measures differ according to cases, and may be different for the passengers, the crew, the cargo, and the ship. They are divided into measures of observation, of simple quarantine, and of rigorous quarantine. Ships taking pilgrims to and from Mecca are subject to special regulations.

Measures of disinfection and fumigation may be applied to the effects of passengers, to the cargo, and to the ship itself.

The diseases quarantined are the pest or plague, the cholera, and the yellow fever. But other serious illnesses, transmissible and which can be introduced, chiefly typhus and smallpox, might be subjected to exceptional precautions, but in this case the measures are only applicable to vessels coming from the infected place.

Precautionary measures can always be taken against a ship the hygienic conditions of which seem dangerous, no matter whence it comes.

The duration of quarantine for and from each port is fully explained in the pamphlet referred to.

Expenses of detention in a lazaretto fall upon the persons detained, although the obligatory visits of the physician are gratuitous. Children under 7 years of age, poor persons embarked at the expense of the Government or officially of consuls, are exempt from lazaretto fees. The fees for soldiers and sailors fall upon the authorities that have command of them.

The expenses of disinfection, fumigation, and manipulation of merchandise fall upon the owners of such goods. The expenses of the disinfection of the ship are borne by the shipowner or his agents.

The quarantine rules are established by the general Government of Egypt and not by the municipalities.

EUGENE SCHUYLER,
Consul-General.

UNITED STATES CONSULATE GENERAL,
Cairo, November 19, 1889.

[Inclosure in Consul-General Schuyler's report.]

*Regulations for the navigation of the Suez Maritime Canal.**

ARTICLE 1.

On receiving a copy of the present regulations captains of ships shall bind themselves to abide by and conform themselves to these rules in all points, to obey all signals therein mentioned, and satisfy any requisition made in view of the execution of these regulations.

ARTICLE 2.

The Suez Canal having a depth of 8 metres (26 feet 3 inches, English) throughout its entire length, is open to ships of all nationalities, provided that their draft of water does not exceed 7½ metres (24 feet 7 inches, English), and that they conform to the following conditions:

Sailing vessels above 50 tons are bound to be towed through.

Steam vessels may pass through the canal by means of their own steam-power or be towed subject to the conditions hereinafter notified.

Of course the towage of steamers through the canal is not compulsory on the company; it will be only performed in so far as they have unengaged tugboats.

ARTICLE 3.

The maximum speed of all ships passing through the canal is fixed at 10 kilometres, equal to 5½ nautical miles per hour.

ARTICLE 4.

Every vessel measuring more than 100 tons gross must take on board, either for entering or clearing the ports of Port Said and Port Thewfik, or for passing through the canal, a pilot of the company, who will furnish all particulars as to the course to be steered.

The captain is held responsible for all groundings and accidents of whatsoever kind, resulting from the management and maneuvering of his ship by day or by night.

Pilots place at the disposal of captains of vessels their experience and practical knowledge of the canal; but as they can not be specially acquainted with the defects or peculiarities of each steamer and her machinery in stopping, steering, etc., the responsibility as regards the management of the ship devolves solely upon the captain.

ARTICLE 5.

When a ship intending to proceed through the canal shall have dropped anchor either at Port Said or Port Thewfik, the captain must enter his ship at the transit office and pay all dues for passage, and when there is occasion, for pilotage,† towage, and berthing. A receipt for the same shall be delivered to him, which will serve as a voucher whenever required.

The following written information must be handed in by the captain: Name and nationality of the ship, to be identified by exhibiting the ship's papers respective thereto, name of the captain, names of the owners and charterers, port of sailing, port of destination, draft of water, number of passengers as shown by the passage list, statement of crew as shown by the muster roll and its schedules and capacity of the ship according to the legal measurement, ascertained by producing the special canal certificate or the ship's official papers, established in conformity with the rules of the International Tonnage Commission assembled at Constantinople in 1873.

ARTICLE 6.

The company determine the hour of departure of each ship and her subsequent stoppages at sidings, in such manner as to give full security for the navigation as well as to insure as much as possible the rapid passage of mail steamers.

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* Issued March, 1889.

† For pilotage dues into and out of Port Said Harbor, see article 13. Since the 1st of July, 1884, and until further orders, the pilotage dues for the journey through the canal are not charged.

Therefore no ship can demand as a right an immediate passage through the canal, neither will any claim be admitted in connection with any delay originating from the foregoing causes.

Unless otherwise ordered, ships engaged upon mail service, under the conditions specified in the next paragraph, happening to be in any of the sidings between Port Said and the Bitter Lakes, or being at anchor or stopped in Lake Timsah or at the South Light or North Light births, at the same time with other ships, whether ships of war or merchant ships, are authorized to pass such other ships and to continue their journey first, in their respective order of arrival in the siding or in the lakes.

Mail steamers, viz, steamers performing a regular mail service under contract with a government, at fixed dates appointed in advance and having been duly vouched for as such, shall carry at the foremast head a blue signal with the letter P cut out in blank in the center.

ARTICLE 7.

All ships ready to enter the canal must have their yards braced forward, their jib-booms run in, and their boats swinging inboard. In addition to their two bow anchors they must carry at the stern, ready for letting go at the request of the pilot, a strong kedge with a stout hawser bent on sufficient to hold the ship.

ARTICLE 8.

SECTION 1. Every ship must, during her passage through the canal, have either in tow or ready to float an armed boat carrying a hawser in readiness to be run out at once and made fast to one of the mooring posts on either side of the canal.

SEC. 2. The captain must set a watch both by day and night; the men to be in readiness to ease away or cut hawsers as may be required.

Every ship made fast on four hawsers must slacken those moored to leeward, in order to give free passage to tugs, steam launches, hopper barges, and any other craft of a light draft that shall have to pass her.

SEC. 3. Until further orders navigation by night time by means of the electric light is authorized for steamers under conditions mentioned in paragraphs 8, 9, and 10 of the present article.

Navigation by night time for steamers unprovided with electric light is only authorized under exceptional circumstances, the captain accepting full responsibility in writing for any delay, mishap, and damages that might happen to his own ship, as well as for any similar accidents he might cause to other ships in transit or to the company's craft and plant happening to be in the canal.

While navigating by night time ships must carry their usual lights and have a man on the lookout forward.

Ships in the sidings or moored during night time must show a white light and another aft with the usual lookout.

On the nearing of tugs, steam launches, hopper barges, etc., or of a ship empowered to pass them, they must show the side for free passage, by exhibiting on such side two white lights.

SEC. 4. All steamers, tugs included, must blow their whistles when approaching the curves of the canal, also when approaching in either direction boats or lighters, dredgers or any craft afloat. They must stop when the channel is not clear and pass at a reduced speed all sidings, stone or earth work yards; they must also slacken speed and have their two bow anchors ready for letting go when passing vessels made fast or under weigh, hopper barges, dredgers, or any other craft.

SEC. 5. Whenever a collision appears probable, no ship must hesitate to run aground and thus avoid the collision. The expenses consequent upon grounding under these circumstances shall be defrayed by the ship in fault.

SEC. 6. When two vessels proceeding in an opposite direction are in sight of each other, they must both decrease their speed and hug the starboard shore, or stop if so required by the pilot.

SEC. 7. Ships proceeding in the same direction are not allowed to pass each other in the canal. This, when necessary, can only be effected at the sidings, under the immediate supervision of the canal company's employés.

SEC. 8. Steamers intending to go through the canal at night must first satisfy the agents of the company at Port Said, or Port Thewfik, that they are provided: First, Forward with an electric projector throwing a light 1,200 meters ahead; this projector must be placed as near as possible to the water line. Second. With an electric lamp and shade suspended above the upper deck and powerful enough to light up a circular area of about 200 metres diameter.

The agents of the company will decide whether the apparatus fulfill the requirements of the regulations so that ships provided with them may, without inconvenience, be authorized to navigate the canal at night. Besides, in case of damages to the ship

or inefficiency of the electric apparatus, navigation at night may be suspended for said steamer.

SEC. 9. Whenever a vessel navigating by night is ordered to get into a siding she must, immediately on having done so, put out her electric lamps and her course lights; every vessel navigating at night the Bitter Lakes or mooring at night out of a siding must also put out all her electric lamps.

SEC. 10. When two or more ships having electric lights are navigating in train at night in the same direction, should any of them stop, she must at once hoist a red light at her mizen masthead, blowing at the same time her steam whistle three times in close succession, repeating this at a few moments interval until the ship following her repeats this signal, which shall be taken as an order to slacken speed at once with a view to stopping, if need be.

SEC. 11. Navigation at night is entirely forbidden to sailing ships and boats.

ARTICLE 9.

When circumstances arise that oblige a ship to stop out of a siding, the captain must make fast ahead and astern to the weather bank and show immediately the signals ordered by these present rules.

In the event of a grounding, the agents of the company alone shall have the right to direct all operations by which a vessel is to be floated off again, to unload and tow the vessel as may be necessary, by means of the plant and stock which the company has at hand, at the expense of the vessel, unless it be regularly proved that there was an insufficient depth of water in the canal, or that erroneous direction by the pilot had caused the grounding.

The aforesaid costs of floating, towing, discharging, and reloading, etc., must be paid conformably with a statement or estimate drawn up by the company, before the departure of the ship from Port Said or Port Thewfik.*

All maneuvers with the object of helping grounded vessels to get off are formally prohibited to other ships in transit.

ARTICLE 10.

The following prohibitions are hereby notified:

SECTION 1. The overloading of the deck, before entering the canal, with coals or other merchandise which might alter the general stability of the vessels or would interfere with navigation.

SEC. 2. The anchoring of a ship in the canal except through unavoidable circumstances and then only with the consent of the pilot.

SEC. 3. Throwing overboard in the ports and during the journey from sea to sea and at any point whatever of such journey earth, ashes, cinders, or material of any kind.

SEC. 4. Picking up, without the direct intervention of the company's agents, any thing that may have fallen into the canal.

Should any material of whatever kind fall overboard, the circumstances are to be immediately made known to the pilot, who is instructed to transmit such information to the company's agent at the nearest station.

The recovery of all articles dropped into the canal, in whatever way such salvage is effected shall be carried out at the expense of the captain to whom such articles will be restored against reimbursement of the said expense.

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* From October 1, 1873, and until further orders, whenever a ship going through the canal happens, except in the roads and ports, to ground or stop in consequence of an accident independent of collision, the company, in order to remove the obstruction in the fairway with all possible speed, and to hasten the restarting of the grounded or stopped ship, will not claim from the captains, the consignees, or the shipowners, the reimbursement of whatsoever expenses incurred in refloating the ship, and, if deemed necessary, for towing her as far as the next siding. If from such siding the ship continues her journey in tow she must pay towage charges according to rates annexed to the present regulations.

It is moreover well understood that ships will have to bear all expenses incurred for the necessary repairs or putting into condition with a view to remedy such damages as might interfere with their restarting, whatever be the time at which these damages may have occurred, and that the said ships will remain responsible for the damages which may be the consequence of their grounding.

The company will continue to perform the work of refloating the grounded ships under the supervision of their officers exclusively and will use first the means available on board, and afterwards or simultaneously, the machinery or appliances belonging to the company.

SEC. 5. It is expressly forbidden, and on penalty of legal proceedings, to masters of ships while in the canal or in the ports or sidings thereunto appertaining, to allow any guns to be fired from on board their ships.

SEC. 6. They are forbidden to sound their steam whistle in the ports of the canal, except as an alarm signal in case of serious danger.

SEC. 7. Burial in the banks of the canal is forbidden.

ARTICLE 11.

1. The net tonnage resulting from the system of measurement laid down by the International Commission of Constantinople and inscribed on the special certificates issued by the competent authorities or on the ship's official papers is the basis for levying the special navigation due, which is at present 9 francs 50 centimes. In levying the dues, any alteration of net tonnage subsequent to the delivery of the above-mentioned certificate or papers shall be taken into account.

2. The canal authorities may ascertain whether cargo or passengers are carried in any spaces which, as shown by the certificate of tonnage, have not been included in the gross measurements, or which were allowed as deductions for the accommodation of the crew after measurement, or which, being within the engine, boiler, or bunker space, form no part of the net tonnage shown on the certificate; and generally may verify whether all the spaces which ought to be included in the tonnage are entered on the certificate and are exactly determined thereon.

3. Every vessel not provided with a special certificate or official papers giving the net tonnage laid down by the Constantinople commission shall be measured by the company's agents in conformity with the Constantinople rules, and shall pay her dues according to such measurement, until she produces a special certificate from the authorities of her own country.

4. Until further orders, ships in ballast will be allowed a reduction of 2 francs 50 centimes per ton on the tariff for transit.

5. Any ship carrying mails or passengers or having in her holds coals or other merchandise in whatever quantity, is not considered as being in ballast.

6. The charge of 10 francs per passenger above twelve years of age or of 5 francs per passenger from three to twelve years old, as well as the transit dues, must be prepaid on entering the canal at Port Said or Port Thewfik.

7. The berthing or anchorage dues at Port Said, ismailia and opposite the company's embankment at Port Thewfik are fixed at 2 centimes per day per ton after a stay of twenty four hours at the berth assigned to the ship by harbor master and whatever be the duration of her stay. These dues will be collected every ten days.

8. Claims for errors in the declaration of tonnage or in the levying of the dues must be sent in within a month after the ship's passage through the canal. After this delay rectifications will not be admitted; no erroneous application of the tariff can ever be brought forward as a precedent against the company.

ARTICLE 12.

SECTION 1. The charges for towage in the canal by the company's tug service are fixed as follows:

For sailing vessels measuring 400 tons and under, 1,200 francs; for sailing vessels measuring above 400 tons, 1,200 francs for the first 400 tons and 2 francs 50 centimes for every surplus ton.

For steamers measuring above 400 tons, 2 francs per ton, without any distinction, upon the whole tonnage, but on the condition that they use their propelling power or keep it in readiness for assisting the tug.

Steamers measuring under 400 tons, also steamers not intending to give the assistance of their propelling power, will pay the same as sailing vessels.

SEC. 2. The charges for towage in the roads by the company's tug service on ships applying for such service are fixed as follows: For steamers or sailing ships, without distinction, the tariff is 25 centimes per ton of net tonnage, for the distance between the inner basins and the end of the jetties and reciprocally; the minimum charge to be 50 francs. For towage to a greater distance the amount shall be settled by private agreement.

SEC. 3. When a ship shall require a tug to act as a tender, the charge for such services will be 1,200 francs a day, if a tug of the first class be employed, and 800 francs a day for a tug of the second class. In the event of a stoppage the tug will render assistance in getting the vessel under way, each time that it may be necessary. If the vessel is towed by the tender any distance exceeding that of one station from another, the charge for towage may be demanded in lieu of the tariff fixed for acting as a tender.

It is hereby provided that when a tug shall only have accompanied or towed a vessel one-half of the length of the canal, 600 francs shall be levied for the return trip of a first-class, and 400 francs for a second-class tug, and one-half only of the total towage or tender dues shall be charged. No other division than that of one-half shall be allowed; from Ismaïlia to Port Said being considered one half on one side and from Ismaïlia to Port Thewfik the other half on the other side.

All ships towed must furnish their own warps.

For the towing of monitors, loaded or empty lighters, and other exceptional vessels, arrangements by contract to be made by private agreement.

SEC. 4. In all other cases, tug hire will be invoiced according to tariff rates annexed to the present regulations.

SEC. 5. Shipowners are authorized to have their vessels towed and accompanied by their own steam tugs, all responsibility connected with such acts devolving upon themselves. Such tugs are to be approved of by the canal company.

Ships towed or accompanied by tugs belonging to their owners will pay 50 centimes per ton as towage dues. Such tugs, whenever they shall tow or accompany vessels belonging to their own proper owners, will be free of any tax whatever.

Whenever they go through the canal for the purpose of meeting vessels of their owners, which they are entitled to tow or accompany, or when returning to their usual berth after having towed or accompanied them through, the said tugs shall not be submitted to payment of the special navigation dues, but they must take a pilot on board.

Any transport of goods or passengers is prohibited to them; the fact of having on board passengers or goods would entail upon them the payment of all dues and charges to which ships in transit are subject.

Whenever the said tugs shall be used for towing or accompanying vessels not belonging to their own proper owners the same dues and charges shall be levied on them as on ships in transit.

Besides the special treatment specified by the present articles, tugs belonging to private owners shall be subject to the strict observance of the present regulations concerning vessels berthing or in transit.

ARTICLE 13.

Pilotage charges for entering Port Said Harbor and leaving the same are fixed as follows for ships not going through the canal: Pilotage by day time, steamers, 25 francs; sailing ships, 10 francs. Pilotage by night time, before sunrise and after sunset, steamers, 50 francs; sailing ships, 20 francs.

The payment of the pilotage charge for entering Port Said Harbor and leaving the same is compulsory on every ship measuring 100 tons gross and upwards.

Whatever length of time ships may stay in the harbor of Port Said and whatever commercial operations they may transact there, total remission will be made of the pilotage charges for daytime entrance, or remission of half the charge for night-time entrance, if they decide to go through the canal.

The pilotage charge for entering or leaving Port Said Harbor at night time is fixed as follows for ships going through the canal: Steamers, 25 francs; sailing ships, 10 francs. Twenty francs per day is levied for pilots kept on board in case of berthing.

ARTICLE 14.

Provisionally and until further orders, ships, barges, lighters, and other craft, either coming in ballast or empty from Port Said under orders for Ismaïlia or returning from Ismaïlia to Port Said with cargoes of native produce; or bringing from Port Said to Ismaïlia cargoes bound to districts of Lower Egypt next to the canal, and returning empty or in ballast from Ismaïlia to Port Said shall be exempted, either outward or homeward bound, whether they be empty or in ballast, from the special navigation dues, and shall only be subject to the payment of 2 francs 60 centimes per ton for their passage when loaded outward or homeward bound.

Such toll is to be prepaid when said ships, barges, lighters or other craft enter the canal in ballast or empty, to go and take cargo of native produce at Ismaïlia as well as when loaded.

As regards dues or charges other than the special navigation dues, said ships, barges, lighters, or other craft are bound to pay them in full.

ARTICLE 15.

The company receive from shipowners or their agents, payments in advance on account of transit and any other dues specified in the present regulations. Against these payments receipts are delivered, which can be tendered as cash to the company's agents in Egypt appointed to collect the dues.

The company's agents appointed to collect the dues in Egypt are moreover empowered with respect to ships whose owners have made the above payments for transit in advance, to accept the captain's draft at sight on the owners for any balance that may be due.

In the event of payments in advance not being effected in time to remit receipts thereof to the captains, the company will inform by telegraph, their agents in Egypt, of the amounts so paid. The cost of telegrams to be defrayed by the shipowners.

This last clause is equally applicable to payments in advance made for dues of ships coming from beyond or eastward of Suez.

FERD. DE LESSEPS,
President-Director.

PARIS, *March* 12, 1889.

FRENCH POSSESSIONS IN AFRICA.

ALGERIA.

REPORT OF CONSUL GRELLET, OF ALGIERS.

PILOTAGE.

Pilotage is in all cases compulsory whether applying to merchant or Government ships, except for ships in distress, with the restriction that they will abstain from commercial operations.

LIGHT DUES.

Light dues are not levied in Algeria.

QUARANTINE.

Quarantine rules are the same as in France, with this only difference, that the powers vested in the matter in the mother country upon the minister of commerce are in the colony conferred on the governor general of Algeria.

CHARLES T. GRELLET,
Consul.

UNITED STATES CONSULATE,
Algiers, October 31, 1889.

REUNION.

REPORT BY COMMERCIAL AGENT BARAN.

PILOTAGE.

Pilotage is compulsory, but gratuitous, for French, foreign, and war vessels, and vessels in distress. A sum of 30 francs is paid by vessels asking for a pilot to change anchorage.

Vessels of all nations, on arrival, can only anchor in one of the three harbors of the colony, viz: St. Denis, St. Paul, and St. Pierre; and may present themselves at Point des Galets for entrance into that harbor, pilotage therein being also compulsory, but gratuitous.

LIGHTS AND LIGHT DUES.

Light dues are charged on all vessels generally, French or foreign, at the rate of 20 centimes per ton, and payable only once at each voyage.

There are two lighthouses at Réunion; one at Pointe de Bel Air, distant 9 miles eastward from St. Denis, and the other at Pointe des Galets, distant 10 miles westward from St. Denis.

The Pointe de Bel Air light is white; its altitude over the level of the sea is 44 metres; it is visible at 21 miles, and by clear weather at 30 miles, from the mast yard of a vessel.

The Pointe des Galets light is white and sparkling; its altitude over the level of the sea is 20 metres, and it is visible at 15 miles.

Three harbor lights are affixed to the signal mast at St. Denis, St. Paul, St. Pierre, and Pointe des Galets.

The St. Denis light consists of two lanterns placed one over the other; the upper one is red and the other white; visible at about 9 miles; its altitude, over the level of the sea is 28 metres.

The St. Paul light is at 19 metres over the level of the sea, and visible at about 5 miles.

The St. Pierre light is red, at 22 metres over the level of the sea, and visible at about 5 miles only.

The Point des Galets light is only visible at about 3 miles.

The island of Réunion charges its own shipping the same lighthouse dues for foreign trade; but that for coasting trade pays an annual charge of 2 francs per ton.

TONNAGE DUES.

The tonnage dues are 2.50 francs per ton. There are also dock dues (droit de quai) as follows: loading and unloading each, 7.50 francs per ton of merchandise.

QUARANTINE.

Quarantine is regulated by a sanitary board, and according to the disease, in compliance with ordinances of 31st July, 1885, and 29th August, 1887, is applied to vessels of all nations; its duration depends entirely on the nature of the disease, and is determined by the board.

The expenses of fumigation of the cargo are borne by government, and by the passengers for their own effects.

ALCIDE BARAN,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
St. Denis, December 4, 1889.

LIBERIA.

REPORT BY CONSUL GENERAL SMITH.

PILOTAGE.

Pilotage is not compulsory in Liberia, and no vessel, Liberian or foreign, is required to pay pilot charges.

LIGHTS AND LIGHT DUES.

Light dues are paid by sail and steam vessels (except those exempt by special contract with the Government) once during the voyage, but only at ports where there are lights.

The altitude of the lighthouse at Monrovia is estimated to be 278 feet above the level of the sea, and the one at Cape Palmas 212 feet.

These lights are said to be visible at from 15 to 20 miles distance.

TONNAGE DUES.

American and all other foreign and Liberian vessels are required to pay 50 cents per ton annually. Transient trading vessels transacting business at only one port of entry are required to pay 10 cents per ton. Said light and tonnage dues are collected through the customs from the master of the vessel or from the commissioned agent of the same.

QUARANTINE.

There are no quarantine regulations established in Liberia.

EZEKIEL E. SMITH,
Consul General.

UNITED STATES CONSULATE GENERAL,
Monrovia, September 19, 1889.

MOROCCO.

REPORT BY WILLIAM REED LEWIS, OF TANGIER.

PILOTAGE.

Pilotage is not compulsory in Morocco.

No system of pilotage exists in Morocco.

LIGHTS AND LIGHT DUES.

No light dues are charged. The lights are as follows:

Port light at Tangier; altitude about 100 feet; distance visible about 10 miles; light, red and white.

Cape Spartel light about 8 miles from Tangier; altitude about 250 feet; distance visible, about 25 miles.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels whether on the foreign or coasting trade, laden or in ballast.

There is no discrimination in regard to flag.

Vessels of no nationality enjoy special privileges.

QUARANTINE.

No established rules; each case decided as it occurs.

All sanitary matters are by a firman of the Sultan in the hands of a sanitary council, composed of the chief diplomatic officers of foreign powers represented in Morocco. They make all rules, but may be relieved of the duties by the Sultan.

WM. REED LEWIS,
Consul.

UNITED STATES CONSULATE,
Tangier, September 19, 1889.

MADAGASCAR.

REPORT BY CONSUL CAMPBELL, OF TAMATAVE.

PILOTAGE.

Madagascar as yet has no vessels of its own, except the celebrated steamer *Normandy*. With the exception of this steamer, which is now rented to a French firm here, the merchant and national fleet of Madagascar consists of pirogues, or canoes.

No foreign flag enjoys any special privileges. There are no Government pilots at any of the ports in Madagascar, and no vessel pays pilotage.

LIGHT DUES.

There is not a single light on the east or west coast of Madagascar and no light-house dues are charged to any shipping.

TONNAGE DUES.

There are no tonnage dues collected from any class of vessels, nor from any nationality at either Tamatave or Majunga, the two principal ports of the country. At some ports on the east coast south of Tamatave, viz, Mananzary and Vatomondy, such dues have been paid and perhaps are now demanded by the local authorities of foreign vessels, and it is known that some English vessels have paid them. Lately the agent, an Englishman, of George Ropes esq, of Boston, protested to this consulate against the demands of the governor of Mananzary in exacting tonnage dues upon some of Mr. Ropes's vessels.

Upon inquiry I ascertained from one of the American agents that Mr. Ropes's agent, when stationed at Vatomondy and Mananzary, paid the governors by way of a bonus something for expediting the business of his vessels in their clearance from those ports, which was afterwards construed by the governor as tonnage dues, and again demanded that those fees would be paid.

This agent having established a precedent contrary to our treaty by paying anything that could be construed in the light of tonnage fees, made a mistake, and then in order to rectify his error he had to appeal to the consulate.

American vessels have refused to pay tonnage fees. It is not generally known whether or not the state government is inclined to sustain those unpaid local officials at the southern ports in their demands for such dues.

QUARANTINE.

The Government regulations regarding quarantine are in an unfinished and very unsatisfactory state, inasmuch as there are no defined rules governing quarantine. There is no list of diseases quarantined, neither are there any quarantine stations, and up to the present there is no regular port doctor.

Passengers and shippers bear the expense of detention, but there has never been any fumigation either of passengers or cargo that I know of.

Recently there was some merchandise belonging to George W. Ropes, of Boston, shipped upon one of the "Messageries Maritimes" steamers, as well as merchandise belonging to several local merchants.

This steamer previous to her coming to this port called at Mauritius, where there have been and are still several cases of smallpox existing. Upon the first information of the existence of smallpox at Mauritius which reached the governor of Tamatave he informed me that he immediately had a notice placed at the custom-house in Malagassy, in French and English, warning shippers of the above fact, and stating that all vessels arriving here from Mauritius would be placed in quarantine. Accordingly when the vessel referred to arrived the merchandise was transferred from the Messageries steamer on board of the *Normandy*, then in the harbor. The expenses of the removal the shippers had to pay.

Sometime afterwards the agent here of Mr. Ropes complained to this consulate, criticising the acts of the governor in his "modus operandi" of placing quarantine at one port and having none at another, the agent requesting this consulate to make a demand upon this Government for a reimbursement of the additional charges incurred upon the transfer of the merchandise to the *Normandy*.

In consulting the governor upon this matter he informed me that in ordering quarantine at this port, which is within his jurisdiction, he obeyed the orders received from his Government, and that shippers or agents who brought goods here upon vessels touching at Mauritius, after due notice having been given that all vessels from Mauritius would be put in quarantine after arriving here, had no cause to complain, and least of all was there any sense or reason in making demands upon his Government for the additional charges of reshipment; the governor at the same time stating that Mr. Ropes's agent ought to be thankful that the goods were transferred on board of the *Normandy*, for had that not been done the merchandise might have been taken to the next port at which the steamer made entry, which would be Zanzibar, at the same time remarking, in case of such an event, how much more would have been the additional charges to be paid by Mr. Ropes's agent; also stating that the agent's criticism upon his acts was uncalled for, and unreasonable under such circumstances; and so far as the quarantine at other ports was concerned, that was the business of the governors at those ports, who had to be responsible to the general Government for their actions and to no other persons.

I am informed that none of the other shippers who had goods upon the steamer in question made any demands for additional charges. I note this matter at length, as there is no law as to the detention of quarantine. In those recent cases vessels from Mauritius have been detained eight days.

It is generally believed that the local governors have never done anything about quarantine except under pressure from foreigners, and there is no doubt that the general Government can take full charge and supersede the local authorities in the matter of quarantine as it can in everything else. In fact the prime minister is the state and his word the law. There are no publications whatever concerning the foregoing subjects, nor indeed upon any other Government matters.

JOHN P. CAMPBELL,
Consul.

UNITED STATES CONSULATE,
Tamatave, October 26, 1889.

PORTUGUESE POSSESSIONS IN AFRICA.

CAPE VERD ISLANDS.

REPORT BY CONSUL PEASE.

PILOTAGE.

ilotage is not compulsory on domestic or foreign vessels.
ilot charges are the same for vessels under the Portuguese flag as those under foreign flags. No foreign flag enjoys special privileges o pilotage.
essels in distress, making signal for a pilot, are charged the same f in an able state. War vessels of all nations are exempt from pilot rges.

LIGHTS AND LIGHT DUES.

ight charges are not levied on vessels of any nationality.
n the extreme north point of the island, of St. Antone is established nall fixed red light, exhibited from a white tower elevated 30 feet ve the sea, and visible 4 miles. It marks the anchorage to the port, ita do Sol, 800 yards to the WSW. Its approximate position is lati- e 17° 12′ 30″ N., longitude 25° 05′ 45″ W.
n Bull Point, east end of the island, there has been erected a fixed te light of the second order, with flashes every 60 seconds; its eleva- is 543 feet, and visible 28 miles over an arc of 180°. The approxi- e position of the light is latitude 17° 06′ 30″ N., longitude 24° 59′ W.
here is but one light on St. Vincent, which is erected on Bird Rock, hwest side of the island in the entrance to Porte Grande. It is a d white light of the fourth order, at an elevation of 270 feet, and ble 15 miles. It can be passed on either side by large vessels to feet.
he light on St. Nicholas Island is situated on the west side of George's , 6 miles from the southern point. It is a small fixed red light, ex- ted from a heap of whitewashed stones, elevated 150 feet above the and visible 3 miles. It marks the anchorage to the port of Pre- a.
he light on the island of Boa Vista is erected on Small Island; is a d white light at an elevation of 75 feet, visible 8 miles. Its position titude 16° 09′ N.; longitude 22° 57′ W.
he light on Isle of Maio is a small fixed red light, elevated 100 feet, visible 3 miles. Its position is latitude 15° 08′ N., longitude 13′ 15″ W.
n the east point of the Island of St. Fago is a small fixed white t, with an elevation of 41 feet and visible 7 miles. Its proximate tion is latitude 14° 59′ N., longitude 23° 25′ 15″ W. On Point erosa, south point of the island, is a fixed white light exhibited a tower whose elevation is 80 feet above the sea. It is of the th order and visible 14 miles; it is situated 600 yards west of en- ce to Porto Praia.
he light on Fago is a small fixed red light, established on the west of the island, exhibited from a pole elevated 200 feet from the sea. visible 5 miles.

The light on Brava is a small fixed red light on the northeastern end of the island, exhibited from a pole elevated 40 feet above the sea and visible 3 miles. It is placed at the northern entrance to the port of Furna. Position, latitude 14° 50′ 30″ N., longitude 24° 40′ W.

TONNAGE DUES.

Tonnage dues are collected on all classes of vessels, whether Portuguese or foreign, provided they discharge or receive cargo, otherwise not, exceptions being made to coasting vessels of the colony, which pay on their tonnage 150 reis or 16 cents per ton once per year.

There is no discrimination as to flag.

QUARANTINE.

There are no prescribed rules as to quarantine each case depends on the whim of the visiting physician, viz, vessels visiting these islands from another port are, before communicating with the shore, rigorously examined as to their sanitary condition, and if any suspicion of informality in their bill of health is discovered, although it be clean, and conforms to the requirements, they are immediately put in quarantine as suspected. The length of time depends on the pleasure of the board of health.

The detention and fumigation expenses is born by the vessel. Passengers sent to the lazaretto bear their own expense, also cargo.

Quarantine rules are established by the General Government, and all changes or matters of dispute with ship masters (serious) are referred to the board of health at Lisbon.

HENRY PEASE,
Consul.

UNITED STATES CONSULATE
Santiago, September 1, 1889.

MADEIRA.

PILOTAGE REPORT BY CONSUL JONES, OF FUNCHAL.

PILOTAGE.

The Bay of Funchal is open, easy of acc ess, with deep water, and no pilots are employed by entering vessels.

LIGHTS AND LIGHT DUES.

Madeira has no light dues. There are two lights on the island. One is situated on the islet of Fora, the most eastern point of Madeira. It is a revolving white light that flashes every half minute. It is 343 feet above sea level and is visible 25 miles. It is known here as San Lorenzo light-house; the other is a red light on the Loo Rock in the Bay of Funchal. Its elevation is 112 feet and is visible 8 miles. It is known as the Harbor Light.

TONNAGE AND SANITARY DUES.

The tonnage dues have been temporarily suspended for Madeira, but the sanitary dues still remain in force. These dues are alike, and are payable to Madeira, irrespective of flag, by all vessels which undertake a commercial transaction in the port. This is understood to be landing at the island more than 1 ton of foreign goods or produce; landing more than 12 passengers; embarking more than 1 ton of foreign goods or produce; embarking more than 20 cubic metres of island produce; embarking more than 12 passengers.

It follows that a vessel may embark or disembark up to 12 passengers or load 20 tons of island produce without paying dues.

Sanitary dues are at the rate of 1½ cents per registered tonnage of the vessel.

Tonnage or sanitary dues are paid to the Portuguese Government at only one port on a voyage.

A receipt from one port admits a vessel free to all other ports on that voyage. But an outward and homeward voyage count as two voyages. No foreign vessel is allowed to carry freight from one Portuguese port to another.

QUARANTINE.

Madeira is a quarantine station of observation. Vessels arriving from infected ports can on no account be admitted to pratique under any condition or after any lapse of time, nor can passengers land from such vessels at the lazaretto.

Vessels coming from such infected ports with clean bills of health are not quarantined if they carry a doctor who can certify to the good state of health on board, otherwise they are quarantined and have to undergo 5 days quarantine of observation.

Plague, cholera, and yellow fever are quarantined. Vessels are not quarantined for smallpox or measles, unless such illness take the form of an epidemic on board.

The Government has recently appointed officials to the lazaretto, but it has not yet been opened.

In any case, it will never be used for arrivals from places infected with the plague, cholera, or yellow fever.

Quarantine rules are established by the governor, on the recommendation of the local sanitary council, the members of which are appointed by the Government.

THOMAS C. JONES,
Consul.

UNITED STATES CONSULATE,
Funchal, September 18, 1889.

ST. PAUL DE LOANDA.

REPORT BY VICE-CONSUL BANNISTER.

PILOTAGE.

Pilotage is compulsory for all nations, Portuguese included. Vessels of over 50 tons register pay $4.32 both entering and leaving port, and under 50 tons $1.58.

All vessels, irrespective of nationality, pay the same, and no flag enjoys any special privilege in this respect, not even the Portuguese.

These fees are collected by the captain of the port, no matter whether a pilot is taken or not.

LIGHT DUES.

The light dues on sailing vessels from ports abroad (foreign ports) are 150 reis, approximately to 16 cents, per ton. On ordinary freight steamers 50 reis, say 5½ cents, and on mail steamers one-half, 25 reis, or, say, 2⅔ cents. These dues are payable each voyage and at one port only in the province during each voyage. Coasting vessels pay 150 reis per ton once a year only and not per voyage.

The general character of the different lights will be found on the tabulated form inclosed herewith.

These dues are charged on the tonnage of vessels and not on the draft, and are paid at the custom-house. There is no discrimination in favor of Portuguese vessels; all pay according to the scale in paragraph No. 1.

I may here mention that only Portuguese vessels are allowed to engage in the general coasting trade in this province, with the exception of a few small crafts belonging to foreign trading firms, possessing a special license or pass. Some few foreign firms along the coast have their own small vessels, both steamers and sailing, which carry their own national flag, but are employed exclusively in carrying goods and produce belonging to such firms between their factories on the coast and in the Congo.

TONNAGE DUES.

These dues and the light dues are identical.

QUARANTINE.

There are no specific rules or regulations for quarantine in this port, those in operation in the ports of Portugal being taken, as far as they are applicable, as a base on which the medical authorities here work. There is no lazaretto here, strictly speaking, and in the event of a vessel arriving with any case of serious contagious illness on board, the vessel is placed under observation, no passengers or seamen being allowed to land, nor any communication with the shore or with craft alongside being permitted except to receive fresh provisions and water, and under exceptional circumstances to communicate with consignees, consul, or other persons interested in the vessel or her cargo; and this only with the consent and under the supervision of the medical authorities, or the custom authorities acting for the time being for such medical authorities. The course that would be adopted in case of a vessel arriving with such diseases as cholera or yellow fever on board, would be to get the vessel out of port as soon as possible. Should the illness be, say, smallpox or measles, the vessel is placed some few days in quarantine (observation) and the passengers affected (if bound for this port) are put on shore at Fort Penedo, some 2 miles from the heart of the city on the northern shore, there put into a house constructed for the purpose, and placed under treatment. As, however, these cases generally occur amongst poor people (emigrants and convicts), they are not kept very long, or very strictly in quarters.

A case of this kind came under my own observation at Mossamedes 12 months ago. The Portuguese mail steamer brought some emigrants from Madeira, amongst whom measles broke out during the voyage, and on the morning of arrival at Mossamedes two new cases appeared

children of the party. The families were landed at a spot 3 miles from the town and housed in a tumble-down building rom all others. The older members of this party, however, walked to the town (I presume to buy provisions), the result, being that the disease was carried into the town. It also shortly after here in Loanda.

ion is not the strong point of the Portuguese, and the wonder rious epidemics are not more frequent in these parts. As it tive quarters in almost every place on this coast are scarcely from a kind of smallpox, which the Portuguese call "variola." se, however, very seldom attacks the white population.

s quarantined: Cholera, yellow fever, smallpox, measles, and ever.

n of quarantine is at the option of the medical authorities, no fast line being laid down.

t within my knowledge, nor can I find from inquiry that any uarantine has occurred in the case of any sailing vessels con- this place as a final port. Steamers, both Portuguese and have, after having touched at ports set down as being infected, cases of contagious illness on board, been put in quaran- rvation). In the case of English steamers no communica- been allowed with the shore, and the vessel has sailed on her d voyage again immediately after landing mails.

penses of detention, fumigation of passengers and cargo are all the ship as far as liability to the authorities is concerned, rs, agents, consignees, or consul being held responsible. rges are limited to 10 reis (1 cent) per cubic metre of the ves- ter tonnage, but must not exceed 15,000 reis ($16.30) in the iling vessels, and 25,000 reis ($27.18) for steamers.

es and regulations are embodied in the sanitary laws of the overnment in Lisbon, and the authorities here, both municipal al, are bound by them.

ED. BANNISTER,
Vice-Consul.

STATES CONSULATE,
Paul de Loanda, March 21, 1890.

Lights of the province of Angola.

Locality.	Distance visible.	Altitude above sea level.	Description of light.
	Miles.	*Metres.*	
stas	24	64.70	Fixed white, with a flash every two minutes.
has	15	17.50	Fixed white, with a flash every eighteen seconds.
outh of harbor)	10	12.20	Do.
's Bounett	12	120.00	Fixed red.
	20	21.00	Fixed white.
the port:			
	7	19.00	Fixed green.
	7	8.00	Fixed red.
Giraul	12	20.10	Fixed white.
o	15	31.48	Do.
	9	32.00	Do.
	7	15.50	Fixed red.
	12	34.00	Fixed white.
	12	24.00	Do.
, Congo River entrance	12	12.00	Do.
e, Congo River entrance	7	11.50	Do.

ZANZIBAR.

REPORT BY CONSUL PRATT.

PILOTAGE.

Pilotage is not compulsory, and no special privileges are enjoyed by any foreign flag. In case the services of a pilot are engaged the charge for such service is simply a matter of agreement with the pilot, but is very reasonable, and need never exceed £4 sterling.

LIGHTS AND LIGHT DUES.

Light dues are not levied either on native or foreign vessels. In the town of Zanzibar, and immediately in front of the Sultan's palace, is a stone signal tower, 140 feet in height. On the top of this tower is an electric light of 10,000 candle-power. This light is not shown on moonlight nights.

At the extreme north end of the island, also at two intermediate points (three in all), are light-houses, something more than 100 feet in height. They show a very poor light and are not to be depended on. With the exception of the one on the north end of the island, none of these lights are visible until after entering the Zanzibar Channel, as they are all located on the inside of the island.

TONNAGE DUES.

Tonnage dues are not collected, save at the consulates of the respective nationalities.

QUARANTINE.

Quarantine laws are unknown, and consequently never enforced. Zanzibar being under a Mohammedan form of government, but little attention is paid to sanitation.

By the foregoing it will be observed that there has been little advance made since the days of the early navigators, the slight improvements noted having been made on the earnest representations of foreign governments that such were absolutely necessary for the safety of navigation.

SETH A. PRATT,
Consul.

UNITED STATES CONSULATE,
Zanzibar, September 23, 1889.

CONTINENT OF AMERICA.

DOMINION OF CANADA.

CANADIAN PILOTAGE ACT OF 1886.

[Extracts.—Transmitted by Consul-General of Montreal.]

The pilotage act only extends to the navigation of the river St. Lawrence below Montreal, and at Quebec, Halifax, and St. Johns.—Jerome Eddy, Consul at Chatham.

39. No pilot shall, without his consent, be taken to sea or beyond the limits for which he is licensed, in any ship whatsoever; and every pilot so taken shall be entitled to cabin passage, and over and above the pilotage dues otherwise payable to him, to the sum of two dollars a day, to be computed from, and inclusive of the day on which the ship passes the limit up to which he was engaged to pilot her, and up to and inclusive of, either the day of his being returned in the said ship to the place where he was taken on board, or if he is discharged from the ship at a distance from such place, such day as will allow him sufficient time to return thereto; and in such last mentioned case he shall be entitled to his reasonable travelling expenses by cabin passage or first class conveyance by land, as the case may be, over and above such pilotage dues and other sums. 36 V., c. 54, s. 40.

40. If a licensed pilot is placed in quarantine, owing to his having been taken on board any ship, he shall be entitled to suitable board and accommodation, and over and above the pilotage dues payable to him, to the sum of three dollars a day, from and inclusive of the day on which he is placed in quarantine up to and inclusive of either the day on which he is discharged therefrom, or, if he is discharged at a distance from the place where he was taken on board, such day as will allow him sufficient time to return thereto; and in such last mentioned case, he shall be entitled to his reasonable travelling expenses over and above such pilotage dues and other additional sums. 36 V., c. 54, s. 41.

41. Any licensed pilot may quit a ship which he has undertaken to pilot as soon as such ship is finally anchored or moored after completion of her voyage or removal, as the case may be, or as soon as she passes out of the pilotage district to which his license extends, whichever first happens; whereupon the service for which he was hired shall be held to be performed. 36 V., c. 54, s. 42.

42. A pilot deprived of his license, or suspended or condemned to pay a penalty for having caused damage to a ship, shall not be entitled to any pilotage dues if the amount of such damage is equal to or exceeds that of such dues, or, if it is less, to more than the excess of the amount of such dues over that of such damage; and the provisions of this section shall be deemed to be referred to in section twenty-six of the act of the legislature of the late Province of Canada, passed in the twenty-third year of Her Majesty's reign, chapter one hundred and twenty-three, entituled "*An Act to incorporate the Pilots for and below the Harbor of Quebec.*" 36 V., c. 54, s. 43.

43. No licensed pilot shall be hereafter appointed to act, or shall act, as harbor master of any port unless he first surrenders his license. 45 V., c. 32, s. 7.

RIGHTS OF PILOTS IN PILOTAGE DISTRICTS IN WHICH THE PAYMENT OF PILOTAGE DUES IS FOR THE TIME BEING COMPULSORY.

44. If any boat or ship having on board a licensed pilot leads any ship which has not a licensed pilot on board when such last mentioned ship cannot, from particular circumstances, be boarded, the pilot so leading such last mentioned ship shall be en-

titled to the full pilotage dues for the distance run, as if he had actually been on board and piloted such ship; and such pilot while leading such last mentioned ship, shall keep his pilot flag flying, and such last mentioned ship, shall, while being so led, show the ensign of such ship at her fore. 36 V., c 54, s. 44.

45. If any person pilots a ship in any pilotage district for which he is not a licensed pilot, under any circumstances not provided for in the next following section of this Act, he shall be liable to a penalty of forty dollars. 36 V., c. 54, s. 45.

46. Any person may, within any pilotage district for which he is not a licensed pilot, without subjecting himself or his employer to any penalty, pilot a ship under any of the following circumstances:—

(*a.*) When no licensed pilot for such district has offered to pilot such ship, or made a signal for that purpose, although the master of the ship has displayed and continued to display the signal for a pilot in this act provided, whilst within the limits prescribed for that purpose;

(*b.*) When a ship is in distress, or under circumstances making it necessary for the master to avail himself of the best assistance which can be found at the time. 36 V., c. 54, s. 46.

47. A licensed pilot may, in any such district upon showing his proper signal and exhibiting his license, supersede an unlicensed pilot, but the master shall pay to such unlicensed pilot a sum in proportion to the distance run for his services, and deduct the same from the charge of the licensed pilot; and in case of dispute, the pilotage authority of the district for which the licensed pilot is licensed, shall determine the proportionate sum to which each person is entitled; and if not so superseded, the unlicensed pilot shall be entitled to be paid the full pilotage dues. 36 V., c. 54, s. 47.

48. Every unlicensed pilot who continues in the charge of a ship in any such district after a licensed pilot has offered as aforesaid to take charge of her, shall, for each offense, be liable to a penalty not exceeding one hundred dollars, and, in default of payment, to imprisonment for any term not exceeding one month. 36 V., c. 54, s. 48.

49. If any master of a ship which is not an exempted ship, removes such ship or causes such ship to be removed from one place to another within the harbor of Quebec, without the assistance of a licensed pilot for and below the harbor of Quebec, he shall pay to the corporation of pilots for and below the harbor of Quebec the same pilotage dues as he would have been liable to pay if he had obtained the assistance of one of such licensed pilots; but this provision shall not apply to the master of any ship actually proceeding to Montreal or elsewhere above the harbor of Quebec, in charge of a pilot for and above the harbor of Quebec. 36 V., c. 54, s. 49.

PILOTAGE DUES.

50. Whenever, under the provisions of this Act, any pilotage dues are made payable by or in respect of any ship, the following persons shall be liable to pay such dues; that is to say,—the owner, the master and the recognized consignee or agent thereof, if such recognized consignee or agent has moneys in his hands received on account of such ship. 36 V., c. 54, s. 50.

51. Every recognized consignee or agent of a ship not being the owner or master of such ship may, out of any moneys in his hands received on account of such ship retain the amount of pilotage dues so paid by him, together with ony reasonable expenses he has incurred by reason of such payment and liability. 36 V., c. 54, s. 51.

52. All pilotage dues may be recovered as a debt due to the pilot or corporation of pilots or pilotage authority, as the case may be, to whom the same are payable; and all sums made payable to a pilot over and above the pilotage dues, shall be payable by the same persons, and recoverable in the same manner as if they were part of the pilotage dues payable to such pilot; but the mode of payment of pilotage dues in the pilotage districts of Quebec and Montreal shall remain the same as before the commencement of this Act. 36 V., c. 54, s. 52.

53. No clearance shall be granted to any ship liable to pilotage dues at any port in Canada where there is a duly constituted pilotage authority which collects the pilotage dues, and at which pilotage dues are payable, until there has been produced to the customs officer granting such clearance, a certificate from the pilotage authority of the district or some officer or person authorized by such authority to grant the same, that all pilotage dues in respect of such ship have been paid or settled for to the satisfaction of such authority. 40 V., c. 20, s. 4.

54. Whenever any difference arises between the master and the licensed pilot of any ship trading to or from any port in Canada, as to her draught of water, the pilotage authority at such port shall, upon application by either party made,—in case of a ship inward bound either within twelve hours after her arrival or at some time before she begins to discharge her cargo, and in the case of a ship outward bound before she quits her moorings—appoint some proper person who shall measure

the ship, and settle the difference accordingly; and there shall be paid to the person measuring such ship, by the party against whom he decides, such remuneration for his services as the pilotage authority appoints. 36 V., c. 54, s. 53.

55. If, upon any licensed pilot offering or beginning to pilot a ship, the master thereof refuses or neglects to declare to such pilot her draught of water, or makes or is privy to any other person making a false declaration to such pilot as to such draught, he shall incur a penalty for every such offense, not exceeding double the amount of pilotage dues payable by such ship to such pilot or to any corporation of pilots of which such pilot is a member. 36 V., c. 54, s. 54.

56. Every master or person interested in a ship who makes or is privy to the making of a fraudulent alteration in the marks on the stern or stem post of such ship, denoting her draught of water, is guilty of a misdemeanor. 36 V., c. 54, s. 55.

EMPLOYMENT OF PILOTS NOT COMPULSORY.

57. No owner or master of any ship shall, in any case, be compelled to employ or to give his ship into the charge of a pilot, either on the ground of his being compelled to pay pilotage dues to any person or otherwise; and nothing in this Act shall exempt any owner or master of any ship from liability for any loss or damage occasioned by his ship to any person or property, on the ground either of such ship being in the charge of a licensed pilot, or of such loss or damage being occasioned by the act or default of a licensed pilot, or on any other ground. 36 V., c. 54, ss. 56 *and* 69.

COMPULSORY PAYMENT OF PILOTAGE DUES, AND EXEMPTIONS THEREFROM.

58. Every ship which navigates within either of the pilotage districts of Quebec, Montreal, Halifax or St. John, or within any pilotage district within the limits of which the payment of pilotage dues is, for the time being, made compulsory by Order in Council under this Act, shall pay pilotage dues, unless either—

(*a.*) Such ship is on her inward voyage and no licensed pilot offers his services as a pilot, or—

(*b.*) She is exempted under the provisions of this Act, from payment of such dues:

2. If such ship is on her outward voyage and the owner or master of such ship does not employ a pilot or give his ship into the charge of a pilot, such dues shall be paid, if in the pilotage district of Quebec, to the corporation of pilots for and below the harbor of Quebec, and if in any other pilotage district, to the pilotage authority of such district. 36 V., c. 54, s. 57, *part.*

59. The following ships, called in this Act exempted ships, shall be exempted from the compulsory payment of pilotage dues:—

(*a.*) Ships belonging to her Majesty;

(*b.*) Ships wholly employed in Her Majesty's service, while so employed, the masters of which have been appointed by Her Majesty's Government, either in the United Kingdom or in Canada;

(*c.*) Ships propelled wholly or in part by steam employed in trading from port to port in the same Province, or between any one or more of the Provinces of Quebec, New Brunswick, Nova Scotia or Prince Edward Island, and any other or others of them, or employed on voyages between any port or ports in the said Provinces or any of them and the port of New York or any port of the United States of America on the Atlantic, north of New York; except only in the ports of Halifax, Sydney pilotage district, Miramichi and Pictou,—as respects each of which ports the pilotage authorities of the district may, from time to time, determine, with the approval of the Governor in Council, whether any, and which, if any, of the steamships so employed shall or shall not be wholly or partially, and, if partially, to what extent and under what circumstances, exempt from the compulsory payment of pilotage dues;

(*d.*) Ships of not more than eighty tons, registered tonnage;

(*e.*) Any ship of which the master or any mate has a certificate granted under the provisions of this Act and then in force, authorizing him to pilot such ship within the limits within which she is then navigating;

(*f.*) Ships of such description and size, not exceeding two hundred and fifty tons, registered tonnage, as the pilotage authority of the district, with the approval of the Governor in Council, from time to time, determines to be exempt from the compulsory payment of pilotage in such district: Provided always, that this paragraph shall not apply to the river St. Lawrence, where all ships registered in Canada, if not more than two hundred and fifty tons registered tonnage, shall be exempt. 36 V., c. 54, s. 57, *part;*—38 V., c. 28, s. 1;—40 V., c. 20, s. 3.

60. When a ship arrives at the limits of any district in which the payment of pilotage dues is, for the time being, compulsory and within any part of which she is an exempted ship under paragraph (*e*) of the next preceding section of this Act, or is at a distance of five miles at least from the mouth of the harbor in any such district

mentioned in the certificate of her master or mate (whichever first happens), such master or mate shall hoist a white flag not less than four feet by six feet at the main top mast head, with the number of his certificate, in black figu es six inches long, in the centre as a signal that the ship has a certificated master or mate on board; and every master or mate hoisting such flag without being authorized so to do at the time and place and on board the ship when and where he hoists the same, and every master or mate neglecting to hoist such flag when and where he is authorized so to do and not accepting the services of a licensed pilot, shall incur a penalty of twenty dollars; and every ship in respect of which such penalty is incurred shall be liable to pay as pilotage dues the same sum as would have been payable to a licensed pilot if the services of a licensed pilot had been obtained or accepted; and all such penalties shall be payable to and recoverable by the pilotage authority of the district. 36 V., c. 54, s. 58.

61. If the master of an exempted ship not belonging to Her Majesty, or not wholly employed in Her Majesty's service, arriving within the limits of a pilotage district in which the payment of pilotage dues is, for the time being compulsory,—

(*a.*) Displays and continues to display the signal for a pilot in this Act provided, whilst within the limits prescribed for that purpose; and does not accept the services of any licensed pilot offering them in consequence of such signal; or—

(*b.*) Without displaying or continuing to display the signal for a pilot, in this Act provided, whilst within the limits prescribed for that purpose, employs any person not belonging to his crew and not being a licensed pilot, to pilot or guide such ship, whether or not a licensed pilot has offered his services,—

Such ship shall be liable to pay, if in the pilotage district of Quebec, to the corporation of pilots for and below the harbor of Quebec, and if elsewhere, to the pilotage authority of the district as pilotage dues the same sum as would have been payable to such licensed pilot if his services had been accepted. 36 V., c. 54, s. 59.

62. When a ship arrives at the limits of any district, in which the payment of pilotage dues is, for the time being, compulsory (unless she is an exempted ship or does not require the services of a pilot), the following provisions shall have effect:—

(1.) Until a licensed pilot has come on board, or until the ship has passed a point, line or place, from time to time fixed in this behalf by the pilotage authority of the district, the ship shall display such signal for a pilot as in this Act provided; and the master thereof, upon sighting a pilot boat carrying the pilot flag or pilot lights shall, by lying to if the weather permits, or by shortening sail, or heaving to, or, if the ship is a steamer, stopping his engines or by any other practicable means, facilitate the coming on board of the pilot or one of the pilots of such boat; and in default, such ship shall be liable to pay as pilotage dues to the pilotage authority of the district, if such district is not the district of Quebec, and if it is, then to the corporation of pilots for and below the harbor of Quebec, a sum not exceeding the amount of pilotage dues which would be payable for piloting such ship:

(2.) If the master of such ship—

(*a.*) Does not accept the services of the first licensed pilot who, by signal or otherwise, offers his services; or—

(*b.*) If there are two or more pilots offering their services at the same time, does not accept the services of such one of them as is entitled by the law or regulations for the time being in force in such district to have his services accepted; or—

(*c.*) Having signalled for a pilot, does not accept the services of any licensed pilot offering them in consequence of such signal—

Such ship shall be liable to pay, if in the pilotage district of Quebec, to the corporation of pilots for and below the harbor of Quebec, and if elsewhere, to the pilotage authority of the district, as pilotage dues, the same sum as would have been payable to such licensed pilot if his services had been accepted:

(3.) All sums received by any pilotage authority in pursuance of this and the next preceding section, shall be applied by it as follows:—

(*a.*) In paying all expenses incurred in obtaining payment of the same;

(*b.*) In paying to the pilot who offered his services to the ship, and if two pilots offered, to that one who was entitled to have his services accepted, such amount, if any, as it, by any by-laws made under this Act from time to time, makes payable to such pilot;

(*c.*) The residue shall be carried to and form part of the pilot fund of the district. 36 V., c. 54, s. 60.

63. If any ship requires the services of a pilot, or, not having a pilot, has entered or is in any district or part of a district where such ship is subject to a compulsory payment of pilotage dues, the master of such ship shall display the following signals, that is to say:—

(1.) In the day time, the Jack or other national color usually worn by merchant ships, having round it a white border one fifth of the breadth of the flag, hoisted at the fore;

(2.) At night,—

(*a.*) A blue light every fifteen minutes; or—

(*b.*) A bright white light, flashed or shown at short or frequent intervals, just above the bulwarks, for about a minute at a time. 36 V., c. 54, s. 61.

64. Every master of a ship who—

(*a.*) Displays such signals for any other purpose than that of summoning a pilot; or—

(*b.*) Uses any other signal for a pilot,—

shall incur a penalty not exceeding one hundred dollars. 36 V., c. 54, s. 62.

65. No ship shall be exempt on any ground whatever from the liability to pay pilotage dues earned by any licensed pilot voluntarily taken on board of such ship by the master for the purpose of piloting her, whether the payment of pilotage dues is or is not, for the time being, otherwise compulsory in the district in which such pilotage dues are earned. 36 V., c. 54, s. 63.

66. Every master of an exempted ship, when navigating such ship without a pilot in any pilotage district, or part of a pilotage district, within the limits of which she is for the time being an exempted ship, shall, as regards the conduct and management of such ship within such limits, have all the powers and duties which are by law or usage possessed by or imposed upon any licensed pilot for such district. 36 V., c. 54, s. 64.

LICENSING OF MASTERS AND MATES.

67. A master or mate of any ship registered in Canada may, upon giving due notice and consenting to pay the usual expenses, apply to any pilotage authority (other than the pilotage authority of either of the pilotage districts of Quebec, Montreal, Halifax or St. John) to be examined as to his capacity to pilot the ship of which he is master or mate within any part of the district over which such pilotage authority has jurisdiction; and such master or mate shall thereupon be examined, and, if found competent, a pilotage certificate shall be granted to him, containing his name, a specification of the ship or ships in respect of which he has been examined, and a description of the limits within which he is to pilot the same,—which limits shall be within such jurisdiction. 36 V., c. 54, s. 65, *part*;—42 V., c. 25, s. 1, *part*.

68. Such certificate shall enable the person therein named to pilot the ship or any of the ships therein specified, of which he is acting as master or mate at the time, but no other, within the limits therein described, as if he was a licensed pilot, and may be in the form of the second schedule to this Act, or any like form:

2. No master or mate of any ship not registered in Canada shall be examined, or receive a pilotage certificate, under the next preceding section, or act as a pilot under this Act. 36 V., 3. 54, s. 65, *part*;—42 V., c. 25, s. 1, *part*.

69. Such pilotage certificate shall not be in force for more than one year, unless the same is renewed, which may, from time to time, be done by an indorsement under the hand of the secretary or other officer of the authority by whom such certificate was granted. 36 V., c. 54, s. 66.

70. All masters or mates to or for whom any such pilotage certificates as aforesaid are granted or renewed by any pilotage authority, shall pay to such authority or as they direct, such fees upon their respective certificates and upon the renewals thereof, as are, from time to time, fixed for that purpose by such authority, with the consent of the Governor in Council. 36 V., c. 54, s. 67, *part*.

71. Such fees shall, in the case of certificates granted or renewed by a pilotage authority, be applicable either to paying the expense of the examinations, or any other general expenses connected with pilotage incurred by such authority, or to the pilot fund of the district, if any, or otherwise for the benefit of the pilots licensed by such authority, as such authority thinks fit. 36 V., c. 54, s. 67, *part*.

72. If at any time it appears to any pilotage authority that any master or mate to whom a pilotage certificate has been granted by such authority, has been guilty of drunkenness or misconduct, or has shown himself incompetent to pilot his ship, they may thereupon withdraw his certificate; and such certificate shall thenceforth cease to be of any effect whatever, and shall be forthwith produced and delivered up by such master or mate to such pilotage authority; in default of which such master or mate shall incur a penalty of forty dollars; and any court of summary jurisdiction may, besides imposing such penalty, by summary order direct such license to be forthwith delivered up to such pilotage authority. 36 V., c. 54, s. 68.

OFFENCES OF PILOTS.

73. Every licensed pilot who, either within or without the district for which he is licensed,—

(*a.*) Commits any fraud or offence in respect to the revenues of customs or inland revenue or the laws relating thereto,

(*b.*) Is in any way directly or indirectly concerned in any corrupt practices relating to ships, their tackle, cargoes, crews or passengers, or to persons in distress at sea or by shipwreck, or to their moneys, goods or chattels,

(*c.*) Lends his license,

(*d.*) Acts as pilot whilst suspended,

(*e.*) Acts as pilot when in a state of intoxication,

(*f.*) Employs or causes to be employed, on behalf of any ship of which he has the charge, any steam-boat, boat, anchor, cable, or other store, matter or thing, beyond what is necessary for the service of such ship, with the intent to enhance the expenses of pilotage for his own gain, or for the gain of any other person,

(*g.*) Refuses or delays, when not prevented by illness or other reasonable cause, to take charge of any ship within the limits of his license, upon the signal for a pilot being made by such ship, or upon being required so to do by the master, owner, agent or consignee thereof, or by any officer of the pilotage authority of the district for which such pilot is licensed, or by any principal officer of customs—subject always in the case of a pilot for and below the harbor of Quebec, to the laws relating to the corporation of pilots for and below the harbor of Quebec,

(*h.*) Upon being so signalled or required, attempts to made any special bargain for salvage,

(*i.*) Unnecessarily cuts or slips, or causes to be cut or slipped, any cable belonging to any ship,

(*j.*) Refuses, when requested by the master to conduct the ship on board of which he is into any port or place into which he is licensed to conduct the same, except on reasonable ground of danger to the ship, or—

(*k.*) Quits the ship which he has undertaken to pilot, before the service for which he was hired has been performed, without the consent of the master,—

Shall, for each offence, in addition to any liability for damages, be liable to a penalty not exceeding two hundred dollars, and suspension or dismissal by the pilotage authority of the district for which he is licensed; and every person who procures, abets or connives at the commission of such offence shall, for each offence, in addition to any liability for damages, be liable to a penalty not exceeding two hundred dollars, and if he is a licensed pilot, to suspension or dismissal by the pilotage authority of the district for which he is licensed. 36 V., c. 54, s. 70.

74. Every pilot who, when on board any ship for the purpose of piloting her, by breach or neglect of duty, or by reason of drunkenness, either—

(*a.*) Does any act tending to the immediate loss, destruction or serious damage of such ship, or tending immediately to endanger the life or limb of any person on board such ship, or—

(*b.*) Refuses or omits to do any lawful act proper and requisite to be done by him for preserving such ship from loss, destruction, or serious damage, or for preserving any person belonging to or on board of such ship from danger to life or limb,—

Is guilty of a misdemeanor and liable to imprisonment for a term not exceeding twelve months, with or without hard labor and, if a licensed pilot, to suspension or dismissal by the pilotage authority of the district for which he is licensed. 36 V., c. 54, s. 71.

75. A pilot shall be liable to suspension or dismissal by the pilotage authority of the district, for any of the offences mentioned in the next preceding section of this Act, upon such evidence as the said authority deems sufficient, and whether he has or has not been convicted of or indicted for such offence:

2. In the pilotage district of Quebec any pilot shall have the right to appeal to the Superior Court for Lower Canada, from any judgment rendered against him by the pilotage authority; and for the purposes of such appeal the provisions contained in section seventy-three of the Act of the legislature of the late Province of Canada, passed in the twelfth year of Her Majesty's reign, chapter one hundred and fourteen, shall apply. 38 V., c. 28, s. 2.

76. Whenever the pilotage authority of Quebec has power to dismiss or suspend a branch pilot for and below the harbor of Quebec, it may, instead of such punishment, fine such pilot in a sum not exceeding one hundred dollars, if it deems it advisable so to do in lieu of dismissing or suspending him. 40 V., c. 51, s. 7.

77. Every person who, by any misrepresentation of circumstances upon which the safety of a ship depends, or by using a license to which he is not entitled, becomes employed or endeavors to be employed to pilot such ship, or enables or endeavors to enable any other person to be so employed, or obtains or endeavors to obtain for himself or any other person the charge of such ship, shall, in addition to any liability for damages, be liable to a penalty not exceeding two hundred dollars, and, if a licensed pilot, to suspension or dismissal by the authority by whom he is licensed. 36 V., c. 54, s. 72.

78. Every licensed pilot who demands or receives any sum in respect of pilotage services greater than the dues for the time being demandable by law shall, for each offence, incur a penalty not exceeding forty dollars. 36 V., c. 54, s. 73.

PILOT BOATS.

79. Every pilot boat regularly employed (elsewhere than in the pilotage district of Quebec) shall be approved and licensed by the pilotage authority of the district in which it is employed. 36 V., c. 54, s. 74.

80. Every pilot boat, wholly or partly decked, shall have the following characteristics:—

(*a.*) On her stern, her name, the name of the owner, or if owned by more than one person the name of her managing owner, or if owned by a corporation the name of that corporation, and the port to which she belongs, painted in white letters at least one inch broad and three inches long, and on each bow the number of her license;

(*b.*) In all other parts, a black color, painted or tarred outside, or such other color or colors as the pilotage authority of the district, with the consent of the Minister, directs;

(*c.*) When afloat during the day time, a flag (in this Act called a pilot flag) of large dimensions compared with the size of the pilot boat, and of two colors, the upper horizontal half white, and the lower horizontal half red; and at night one white light (in this Act called a pilot light),—such pilot flag or pilot light respectively to be placed at the mast head, or on a sprit or staff, or in some other equally conspicuous situation:

And the master of every such wholly or partly decked pilot boat shall be responsible for the following particulars:—

(*a.*) That the pilot boat possesses all the above characteristics, and that the pilot flag and pilot light are kept clean and distinct, so as to be easily discerned at a reasonable distance;

(*b.*) That the names and numbers aforesaid are not at any time concealed or altered;

And if default is made in any of these particulars, he shall, for every such offence, incur a penalty not exceeding eighty dollars. 36 V., c. 54, s. 75;—40 V., c. 20, s. 1.

81. Every pilot boat, neither wholly nor partly decked, shall have the following characteristics:—

(*a.*) On her bow or stern her name, the name of her owner, the port or place at which her owner resides, and the number of her license, painted in white letters at least two inches long, on a dark ground;

(*b.*) When afloat during the day time, a flag (in this Act called a pilot flag) of large dimensions compared with the size of the pilot boat, and of two colors, the upper horizontal half white, and the lower horizontal half red:

And the master or person in charge of every such pilot boat shall be responsible for the following particulars:—

(*a.*) That the pilot boat possesses all the last above-mentioned characteristics, and that the pilot flag is kept clean and distinct, so as to be easily discerned at a reasonable distance;

(*b.*) That the names and numbers aforesaid are not at any time concealed or altered;

And if default is made in any of these particulars, he shall, for every such offence, incur a penalty not exceeding forty dollars. 36 V., c. 54, s. 76.

82. Every pilot when on board and in charge of any ship, as such pilot, shall display a pilot flag under the ensign of such ship, or in some other equally conspicuous situation, and if he fails to do so, shall incur a penalty not exceeding eighty dollars; and the master of every such ship shall permit such flag to be displayed, and in default shall incur a penalty not exceeding eighty dollars. 36 V., c. 54, s. 77.

83. Whenever a licensed pilot, in the exercise of his calling as pilot, goes off in a boat or ship not in the pilotage service, he shall exhibit during the day time a pilot flag, and at night a pilot light, in order to show that such boat or ship has a licensed pilot on board, and if he fails so to do, without reasonable cause (proof whereof shall lie on him), he shall, for every such offence, incur a penalty not exceeding two hundred dollars. 36 V., c. 54, s. 78;—40 V., c. 20, s. 2, *part.*

84. If a boat or ship, not having a licensed pilot on board, displays a pilot flag or a pilot light, the owner or master of such boat or ship shall, for every such offence, incur a penalty not exceeding two hundred dollars. 36 V., c. 54, s. 79;—40 V., c. 20, s. 2, *part.*

CORPORATION OF PILOTS FOR AND BELOW THE HARBOR OF QUEBEC.

93. The chairman of the corporation of pilots for and below the harbor of Quebec shall be *ex-officio* a member of the corporation of the Quebec Harbor Commissioners, so far as respects pilotage matters, to which alone his powers as a commissioner shall extend. 38 V., c. 55, s. 7.

94. The board of directors of the corporation of pilots for and below the harbor of Quebec, shall have power, from time to time, to select any of the pilots, members of the said corporation, to be masters of any schooners under their control, and to remove them; and every such pilot so selected who refuses or neglects to serve as such

master until removed as aforesaid, shall incur a penalty of one hundred dollars, which shall be recoverable in the same manner and as other penalties incurred by pilots, and shall form part of the pilot fund. 36 V., c. 54, s. 85.

95. Any pilot in charge as such master of a schooner employed in the pilotage district of Quebec, may, for neglect or omission in the discharge of his duties, on complaint brought against him by any person aggrieved, be condemned by the Quebec Harbor Commissioners to pay a penalty not exceeding forty dollars and costs,—recoverable and applicable in the same manner and form as other penalties incurred by pilots. 36 V., c. 54, s. 86.

96. The board of directors of the corporation of pilots for and below the harbor of Quebec may pay out of the funds of the said corporation, to each of its directors, and shall pay to each of the masters of the schooners of the said corporation a remuneration not exceeding in any one year one hundred dollars over and above his share in the net income of the said corporation. 36 V., c. 54, s. 87.

97. At all times during the season of navigation in the river St. Lawrence below Quebec, there shall be on duty and personally present at one of the pilot stations, one of the directors of the said corporation, whose duty it shall be—

(*a.*) To enforce the execution of the duties in regard to the embarkation and disembarkation of pilots, and the conduct of pilots and apprentices on board the pilot schooners;

(*b.*) To keep a journal of occurrences, and note therein the absence of any schooner from its station, and the time and cause andduration of such absence, and every time when and place where such schooner anchors, and the length of time she remains at anchor:

2. Such journal, or a copy thereof, shall be transmitted monthly by the said board of directors to the Quebec Harbor Commissioners. 36 V., c. 54, s. 88.

INVESTIGATIONS.

98. The pilotage authority for any district shall, in all cases of inquiry or investigation made by them under this Act, or under any other Act or law, have full power to examine any person appearing before them to give evidence in such case on oath; and such oath may be administered by any member of such pilotage authority present at such inquiry or investigation. 45 V., c. 32, s. 1.

99. Whenever any ship sustains damage through the fault of any branch pilot for and above the harbor of Quebec, the pilotage authority of the pilotage district of Montreal may, in its discretion, and upon such information as it deems expedient, and with or without complaint by any person, investigate the matter and declare the branch of such pilot forfeited: Provided, that in the case of inward bound ships no investigation shall be had after the expiry of thirty days from the happening of the damage or cause of complaint, or ten days from the arrival of the ship at its destination; and provided also, that in the case of outward bound ships, no investigation shall be had after the expiry of thirty days from the happening of the damage or cause of complaint, unless the owner or master of the ship, within six days after the arrival of the ship at its destination, mails a complaint to the pilotage authority aforesaid,—which complaint shall be investigated within thirty days after coming to the knowledge of the said pilotage authority. 45 V., c. 32, s. 3.

100. When any ship meets with any accident by reason of the fault of and while in charge of a pilot for and below the harbor of Quebec, the master, owner or consignee thereof, or other interested person may submit his complaint in respect thereto at any time thereafter, and the pilotage authority of the pilotage district of Quebec may, upon such information as it deems expedient and with or without complaint by any person, investigate the matter and declare the branch of such pilot forfeited: Provided, that in the case of inward bound ships, no investigation shall be had after the expiry of thirty days from the happening of the damage or cause of complaint, or ten days from the arrival of the ship at its destination; and provided also, that in the case of outward bound ships, no investigation shall be had after the expiry of thirty days from the happening of the damage or cause of complaint, unless the owner or master of the ship within six days after the arrival of the ship at its destination, mails a complaint to the pilotage authority aforesaid, which complaint shall be investigated within thirty days after coming to the knowledge of the said pilotage authority. 45 V., c. 32, s. 4.

RECOVERY AND APPLICATION OF PENALTIES.

101. Every penalty imposed by this Act or by any by-law made under this Act, or under any by-law existing at the time of the coming into force of this Act, may be recovered or enforced with costs by civil action or proceeding at the suit of the Crown only, or of any person suing as well for the Crown as for himself,—before any court

having jurisdiction to the amount of the penalty, or in a summary manner before a stipendiary magistrate, police magistrate or two justices of the peace, under the Act intituled "*An Act respecting summary proceedings before Justices of the Peace,*"—upon the evidence of any one credible witness other than the plaintiff or person prosecuting: Provided always, that all penalties incurred under this Act shall, within the limits of the pilotage authority of Quebec, be sued for and recovered before the Quebec Harbor Commissioners, in the same manner as penalties were heretofore recovered and suits brought before the late Trinity House of Quebec. 36 V., c. 54, s. 18, *part*;—40 V., c. 51, s. 6, *part*.

102. Every pecuniary penalty paid by a licensed pilot for an offence against the provisions of this Act, or a breach of any by-law made under this Act, or under any by-law existing at the time of the coming into force of this Act, shall be paid into and form part of the pilot fund of the pilotage district in which the offence or breach is committed, and if there is no such fund in such district, shall be paid and applied in such manner as the Governor in Council, from time to time, directs; and every pecuniary penalty paid by any person, other than a licensed pilot for any such offence or breach, shall be paid and applied in such manner as the Governor in Council, from time to time, directs, except in the pilotage district of Quebec, in which every such last mentioned pecuniary penalty shall be paid into and form part of the funds of the Quebec Harbor Commissioners. 36 V., c. 54, s. 89.

LIMITATION OF SUITS AND PROSECUTIONS.

103. No suit shall be brought or proceeding instituted for the recovery of any penalty or the infliction of any punishment for any offence against the provisions of this Act, or for any breach of any by-law made under this Act, or existing at the time of the coming into force of this Act, after six years from the date of the commission of such offence or breach. 36 V., c. 54, s. 90.

CANADIAN PORT REGULATIONS.

[Transmitted by Consul George, of Charlottetown.]

Rules and regulations for the government of certain ports in the provinces of Nova Scotia, New Brunswick, Quebec, Ontario, British Columbia and Prince Edward Island, to which the Acts 36 Vic. Chap. 9, and 37 Vic. Chap. 34 apply, and for the government of the office of Harbour Master for the said Ports.

RULE I.

The following Rules and Regulations shall apply to each and every Port which has been or hereafter may be proclaimed by an Order of the Governor in Council under the provisions of the above named Acts, intituled respectively, "An Act to "provide for the appointment of Harbour Masters for certain Ports in the Provinces "of Nova Scotia and New Brunswick," and "An Act to provide for the appointment "of Harbour Masters for certain Ports in the Provinces of Quebec, Ontario, British "Columbia and Prince Edward Island," unless and until other Rules and Regulations be authorized in such Order or subsequent Order in Council.

RULE II.

It shall be the duty of each Harbour Master of the said Ports, in person, or by deputy duly authorised, to go on board of every ship or vessel of the burthen of twenty tons (registered tonnage) and upwards, which shall arrive within the said Ports, within twelve hours after the arrival of such ship or vessel, to see that she is moored only in such a manner or position as shall be assigned to her by the following Regulations. And it shall be lawful for such Harbour Master to ask, demand and receive, as a compensation for his services (vessels belonging to or employed by Her Majesty and the Government of the Dominion of Canada, and ships engaged in trading between Ports and places in the Dominion or in the Fishing trade excepted) according to the following scale, and under the restrictions mentioned in the above named Acts:

SCALE OF FEES.

For every ship or vessel of 20 tons, but not more than 80 tons, (registered tonnage,) 50 cents.

For every ship of 80 tons, but not more than 200 tons, (registered tonnage,) $1.00.

For every ship of more than 200 tons, but not more than 300 tons, (registered tonnage,) $2.00.

For every ship of more than 300 tons, but not more than 400 tons, (registered tonnage,) $3.00.

For every ship of more than 400 tons, $4.00.

RULE III.

In case of any dispute arising between Masters, owners or other persons engaged in hauling ships or vessels in or out of any of the Docks or Wharves, it shall be the duty of the Harbour Master, if called upon, to give such directions as he may think fit in respect to the same; and all masters, pilots or other persons having the charge or command of any ships or vessels shall comply with the directions of the Harbour Master or his deputy in these respects, under the penalty of Twenty Dollars for each and every neglect or refusal so to do.

RULE IV.

If any ship or vessel arriving and anchoring, or being moored or fastened to any wharf or vessel in the Harbour shall be so moored or placed as to be unsafe or dangerous to any other ship or vessel previously lying at anchor in the Harbour, or moored or fastened as aforesaid, the Harbour Master or his deputy is hereby authorised and required to forthwith order and direct the situation of such ship or vessel so arriving and anchored, moored, or fastened as aforesaid, to be altered in such a manner as to prevent such insecurity and danger; and the master, pilot or other person having charge of such ship or vessel shall comply with the orders and directions of the Harbour Master or his deputy in this respect, under the penalty of Twenty Dollars for each and every offence.

RULE V.

Any person or persons who may moor or fasten to, or in any manner injure, alter or change any of the public buoys, shall, on conviction, pay a penalty of Twenty Dollars, besides being held liable to any damage sustained.

RULE VI.

Whenever it shall happen that any ship or vessel is short of hands, so that she cannot be moved when ordered, it shall and may be lawful for the Harbour Master to employ a sufficient number of hands to effect such removal, and to remove or assist in removing such vessel as required or as may be necessary, and that at the expense of such vessel.

RULE VII.

The Harbour Master shall have power to order the removal of any scow, boat or other vessel, loaded or unloaded, or anything calculated to interfere with the moving or mooring of vessels from any part of the Harbour to any other part thereof, and the owner of such scow, boat, etc., or person in charge thereof, failing to make such removal in one hour after being notified so to do, shall forfeit and pay a sum not exceeding $10, nor less than $5, and after one hour shall have elapsed the Harbour Master shall have power to make the removal and charge the person notified for so doing.

RULE VIII.

Whenever the Harbour Master shall find ships or vessels at the wharves with main jib or spanker booms rigged out so as to incommode other vessels, it shall be the duty of the Harbour Master to direct such to be rigged in, and in the event of non-compliance, all accidents to the same shall be at the risk of the persons so offending.

RULE IX.

No vessel shall be left without some person to take care of her, by night and by day, when anchored in the stream or in the Harbour.

RULE X.

All vessels lying at anchor in the Harbour shall keep a clear and bright light burning, at least six feet from the uppermost deck, from sunset until sunrise.

RULE XI.

All ships or vessels loading or discharging in the stream, coals, ballast and such like materials, shall have a sufficient piece of canvas or tarpaulin so placed as to prevent any portion thereof from falling into the Harbour, under the penalty of $20 for each and every offence, to be paid by the owner, master or person in charge of such ship or vessel.

RULE XII.

No Ballast, Stone, Gravel, Earth or Rubbish of any kind, shall be unladen, cast or emptied out of, or thrown overboard, from any ship or vessel whatever in the Harbour, or at the entrance thereof (except in places set apart for that purpose by the Harbour Master and under his direction), under the penalty of Fifty Dollars for each and every offence, to be paid by the owner, master or other person having the charge of any such ship or vessel.

RULE XIII.

In places set apart by the Harbour Master for the deposit of ballast, etc., it is hereby required that no ballast, stone, gravel, earth, or rubbish of any kind shall be unladen, discharged, deposited, thrown or laid before sunrise or after sunset, under a penalty of Forty Dollars for each and every offence.

RULE XIV.

No Ballast, Stone, Gravel, Earth or Rubbish of any kind shall be unladen, discharged, deposited, thrown or laid, either from any vessel, boat, scow or other such craft, or in any other manner, or by any person, from any part of the beach or shore into any part of the Harbour, or upon the beach and shore thereof, either below low water mark, or between high and low water mark under the penalty of Forty Dollars for each and every offence, to be paid by the owner or owners, master or person having charge of any vessel, boat or scow, or other craft from which such matter as aforesaid shall have been discharged, or by any other person or persons violating this law.

RULE XV.

Any person or persons who shall or may hinder, oppose, molest or obstruct the Harbour Master, his Deputy or any of his assistants in the discharges of his or their duty, shall, on conviction, pay a penalty of Forty Dollars for each and every offence.

RULE XVI.

The penalty for violation of, or not conforming to the provisions of the Law, and for disobeying the lawful orders or directions of the Harbour Master or his deputy in respect to any provision for which no penalty is hereinbefore prescribed, shall be Twenty Dollars to be imposed upon the owner or person in charge of the ship or vessel not conforming to the particular requirements.

GOVERNMENT BREAKWATERS, PIERS, AND WHARFS.

[Transmitted by Consul-General Anderson, of Montreal.]

ACT OF 1889.

Regulations for the government of Breakwaters, Piers and Wharves in Canada the property of the Dominion Government, with Tariff of Tolls and Dues leviable on vessels and merchandise thereat.

REGULATIONS.

SEC. 1. No waggon or other vehicle shall be driven along any breakwater, pier or wharf, unless employed in the loading or unloading of vessels, or carting ballast.

SEC. 2. No person shall ride or drive a horse or horses faster than a walk on any of the breakwaters, piers or wharves.

SEC. 3. No lumber, laths or other material shall be piled in or near the snubbing-posts, in such a manner that a vessel cannot be made fast.

SEC. 4. Masters of vessels, or other persons in charge of vessels or rafts, shall make a faithful report of the cargo, as to the quantity and description, to the wharfinger, at his office; and any master or person in charge of any vessel or raft who neglects to report and to pay the tolls and dues (except by permission of the wharfinger) shall be liable to have the vessel or raft of which he may be in charge, or of which he is the master, seized and detained, then or at any future time, until such dues and tolls are paid; and the master, owner or person in charge shall be so liable to the penalty provided by law.

SEC. 5. Any master or person in charge of any vessel or raft, making a false report of cargo, shall be liable to a fine of twenty dollars, with or without imprisonment, for each and every false report, and the vessel or raft shall be liable to detention then, or at any future time, until such dues are paid or satisfied; and if any master or person in charge of any vessel neglects to report her cargo, such vessel, or the owner thereof, shall be liable for the tolls on such cargo at any future time, and the master thereof shall be liable to a fine of twenty dollars for each and every offence. The master or person in charge of any vessel shall report and pay the tolls to the wharfinger, at his office.

SEC. 6. No person, without the permission of the wharfinger, shall remove any goods, chattels, merchandise or material of any description, from any breakwater, pier or wharf, on which the tolls and dues have not been paid.

SEC. 7. All goods, chattels, merchandise or material of any kind whatever, having been landed, piled or placed on any breakwater, pier or wharf, for shipment, shall be liable to tolls, as per schedule annexed, whether aftewards shipped or not, and shall likewise be liable to all the regulations as to removal and ground rent and sale, and the fact of any of the said articles having been landed, piled or placed on any part of the harbor property shall be presumptive evidence that the owner intended to ship the same, and said lumber, timber, salt and other articles, shall in consequence be liable to pay the usual tolls, although afterwards removed by teams or otherwise.

SEC. 8. All tolls and dues shall become due and payable at once upon the goods, chattels, merchandise or other material being landed, piled or placed on any breakwater, pier or wharf.

SEC. 9. No goods, chattels, merchandise or materials of any kind, shall be landed or placed in or upon any breakwater, pier or wharf, unless by permission of the wharfinger, and then only on such portions of the breakwater, pier or wharf as may be allowed to them for the time being, and shall be so landed and placed in such a manner as the wharfinger may direct; and goods, chattels, merchandise or other material landed or placed on any breakwater, pier or wharf, shall be shipped or removed within forty-eight hours, and in default of so shipping or removing said goods, chattels, merchandise or other material, it may be removed at the direction of the wharfinger, and the expense of such removal shall be a lien upon such property so removed; it shall also pay a rental of not more than one dollar for every succeeding forty-eight hours for each and every twelve feet square of any breakwater, pier or wharf so occupied thereby. In case the owner or agent of such goods, chattels, merchandise or other material refuses or neglects to ship or remove the same from any breakwater, pier or wharf, after the expiration of twenty-eight days from the time of their being placed there, the proceedings provided for by the statute in that behalf may be taken, and the said goods, chattels, merchandise or other material may be sold to pay the sums due with costs.

SEC. 10. No slaughter-house, fish-stall or other structure shall be erected upon any breakwater, pier or wharf, without the permission of the Minister of Marine and Fisheries; and any such structure shall pay ground rent to be determined by the said Minister; provision to be made for the removal of such structure by his direction.

SEC. 11. No goods, chattels, merchandise or any other material shall be landed in or on, or shipped from off such slaughter-house, fish-stall or other structure without the permission of the wharfinger, and all such goods, chattels, merchandise or other material landed in or on, or placed for shipment from off such structure, shall be liable for the tolls and dues as if landed on any other part of the breakwater, pier or wharf.

SEC. 12. Vessels will not be entitled to any berth, although they may have been hauled in and made fast to the same, unless permission shall have been first obtained from the wharfinger, and such vessels are in all cases to be removed at his request; and in case the owner or person in charge of such vessel shall refuse or neglect to remove the same they shall be removed at the risk and expense of the owner.

SEC. 13. Vessels to discharge cargo will take precedence over vessels to load.

SEC. 14. Lumber or merchandise of any description discharged overboard, to be rafted, will be charged half rates, but full rates if discharged into lighters, scows or other vessels.

SEC. 15. Goods discharged from one vessel to another vessel will be charged half the specified rates for goods landed upon any breakwater, pier or wharf; and in all cases said charge is to be paid by the inside vessel.

SEC. 16. All goods, chattels, merchandise or material of any description, shipped from any breakwater, pier or wharf, will be charged the same rates as for landing, except in the case of goods, chattels, merchandise, &c., landed and directly re-shipped—which shall be charged one rate only.

SEC. 17. No person shall obstruct any wharfinger in the performance of his duties.

SEC. 18. The tolls and dues specified in the accompanying schedule shall be, and they are hereby imposed and authorized to be levied and collected by the wharfinger on the vessels and articles enumerated in said schedule, making use of any of the breakwaters, piers or wharves belonging to Canada; except goods, wares and merchandise belonging to the Government of Canada, which are and shall be free of all tolls.

SEC. 19. The tolls payable upon such vessels or upon goods, chattels, merchandise or other material being landed, piled or placed on any breakwater, pier or wharf, are hereby imposed upon, and may be collected and recovered from the owner of the same.

SEC. 20. No dirt, sand, gravel or other ballast will be allowed to be put upon any breakwater, pier or wharf, unless with the approbation and under the inspection of the wharfinger; neither will dirt, sweepings of the hold or any articles whatsoever, under any pretence, be permitted to be thrown into the docks. Coal, limestone or any article which either through carelessness or otherwise in discharging or loading shall fall into the docks shall be removed by the master of the vessel, or by the wharfinger at the expense of the master.

SEC. 21. Wharfage will be charged on all ballast put on board or taken from any vessel at any breakwater, pier or wharf.

SEC. 22. All goods, chattels, merchandise or material of any description on any breakwater, pier or wharf, will be at the sole risk of the owner.

SEC. 23. The penalty for violation of the law or any rule or regulation made thereunder, shall not exceed one hundred dollars, and punishment by imprisonment shall not exceed thirty days.

SEC. 24. No cattle shall be allowed to remain on any breakwater, pier or wharf after orders have been given by the wharfinger for their removal, under a penalty of twenty cents per head.

SEC. 25. Special arrangements may be made with the wharfinger for vessels lying at the wharf during the winter season.

SEC. 26. Vessels lying with moorings attached for shelter and a harbor, shall pay ¼ cent per registered ton for every twenty-four hours or portion thereof.

SEC. 27. No goods shall remain on the wharf longer than seven days unless by special permission of and agreement with the wharfinger.

SEC. 28. The ton weight mentioned shall be 2,000 pounds.

SEC. 29. The tolls payable upon any steam-boat or other vessel are hereby imposed upon and may be collected and recovered from the master or owner or person in charge of such vessel; those payable upon any other articles are imposed upon and may be collected and recovered from the owner or person in charge thereof; and those payable upon any articles shipped or landed at the wharf off any vessel, are imposed upon and may be levied and collected on and from such vessel and on and from the master or owner or person in charge thereof.

SEC. 30. No vessel shall be allowed to make fast to any of the fenders on any breakwater, pier or wharf, without the permission of the wharfinger.

SEC. 31. On all goods, wares and merchandise whatsoever, the quality of which by right measurement or other mode of estimate provided for in the tariff, can not be conveniently ascertained, it shall be lawful for the wharfinger to levy a rate of one-quarter of one per cent. on the value thereof.

SEC. 32. Goods not coming under any class enumerated in the tariff shall be charged at the same rate as the class to which they are most nearly assimilated.

SEC. 33. Each entry shall pay not less than five cents.

SEC. 34. All property landed on a breakwater, pier or wharf for re-shipment shall only pay one wharfage.

SEC. 35. Tonnage dues at the rate of six cents per ton of the registered measurement are hereby imposed and authorized to be levied on and collected from each and every vessel entering the port or harbor at Cow Bay, in the County of Cape Breton, as provided by the 3rd section of the Act 37 Victoria, Chapter 18, and the said dues are hereby imposed upon and may be collected from the master or owner, or the

person in charge of such vessels, but dues shall not apply to vessels entering said port at Cow Bay which merely seek freight and are obliged to leave the said port in ballast and do not use the breakwater for shelter, while in port.

SEC. 36. The limits of the harbor or port of Cow Bay aforesaid, for the levying and collection, under the provisions of the act 37 Vict., Chap. 18, of the tonnage dues on vessels entering that harbor or port, are defined as within an imaginary straight line drawn from Magazine Point, on the north side of Cow Bay, to a point ten rods northeast of the South Head Shipping Pier, on the south side of Cow Bay.

SEC. 37. Any of the tolls payable upon any vessel under the tariffs herein mentioned may be recovered with costs in the manner provided by the 30th Section of Chapter 36, Revised Statutes of Canada, from the owner or master or person in charge of such vessel.

SEC. 38. The tolls payable under the said tariff upon any goods, are hereby imposed also upon the vessels or other crafts upon or from off which such goods may be shipped or landed, and the payment of such tolls may be enforced, and there shall be the same remedy for their non-payment as if they had been expressly imposed upon such vessels or crafts, by the said tariff.

SEC. 39. The tolls payable upon any goods may also be recovered with costs in the manner provided by the said 30th section, from the owner or consignee, or person in charge of such goods.

SCHEDULE.—GENERAL TARIFF OF TOLLS AND DUES.

GOODS.

		Cents.
Animals, undescribed		3
Apples	per barrel	1
Do	per bushel or per bag	¼
Bacon	per 100 pounds	3
Bark	per cord	5
Barrels	each	2
Barrels	empty, per 100	25
Beef and pork	per barrel	3
Do	per half barrel	2
Do	per quarter barrel	1
Beer, ale, and porter	per barrel	4
Do	per half barrel	2
Do	per quarter barrel	1
Boilers	per ton	25
Bricks	per 1000	20
Brooms	per dozen	3
Buckets	do	3
Building stone	per cord	10
Butter	per 100 pounds	2
Calves	each	3
Carriages, wagons, and carts of all kinds	do	10
Cases, bales, and other similar goods	per ton of 40 cubic feet	4
Casks, empty	each	2
Cattle and horses	per head	10
Cedar posts	per 100	20
Cement	per barrel	1
Chains and anchors	per ton	10
Cheese	per 100 pounds	2
Cider	per barrel	3
Clover seed	per bushel	2
Coal, iron, building stone, and the like material	per ton	5
Colts and fillies	each	7
Cordage and ropes	per ton	40
Cordwood and bark	per cord	3
Corn meal, Indian	per barrel	2
Cranberries	do	5
Crockery, including China and glassware	per crate	10
Cultivators	each	3
Dry goods, not elsewhere specified	per ton	50
Earthenware, coarse	per crate	10
Eggs	per barrel or box of 72 dozen	5
Fanning mills	each	15

SCHEDULE.—GENERAL TARIFF OF TOLLS AND DUES—Continued.

GOODS—continued.

		Cents.
Fish, fresh		Free
pickled	per barrel	2
pickled	per half barrel	1
dry	per 100 pounds	1
Flour	per barrel	2
Do	per 100 pounds	1
Fruit, not otherwise provided for	do	5
Furniture	per ton measurement	30
Grain of all kinds, except oats	per bushel	½
Grain of all kinds, except oats, passing through Grand Trunk elevator at Goderich	per bushel	⅓
Grain, oats	do	⅓
Grain, oats, passing through Grand Trunk elevator at Goderich	do	⅙
Gravel, for use of roads		Free
Grindstones	per ton	15
Gunpowder	do	50
Gypsum	do	3
Hams	per 100 pounds	2
Hardware	per ton	25
Hay	do	10
Headings, barrel	per 1000	25
Hides and skins	per 100 pounds	1
Hogsheads and puncheons	each	5
Hoops	per 1000	2
Hops	per 100 pounds	5
Horserakes	each	5
Iron:		
bar	per ton	5
pig	do	3
scrap	do	15
Lard	per barrel	5
Do	per half barrel	2½
Laths	per 1,000 pieces	½
Leather	per 100 pounds	3
Lime	per barrel	2
Lime, in bulk	per ton	5
Lumber, sawn or square	per 1,000 feet B. M	5
Machinery, engines, etc	per ton	25
Machines:		
reaping and mowing	each	50
thrashing	do	75
Marble	per ton	25
Matches	per 10 gross	3
Mattresses	each	4
Merchandise, dry goods	per ton	50
Millstones	per pair	30
Molasses	per puncheon or hogshead	8
Musical instruments, such as pianos, organs, and melodeons	each	5
Nails	per keg	2
Nails and spikes	per ton	25
Nursery produce	do	30
Oakum	per 100 pounds	2
Oatmeal	per ton	2
Oils	per barrel	2
Paints	per ton	5
Pearl ashes and potashes	per barrel	8
Pickets	per 1,000	3
Plaster:		
calcined	per barrel	4
land	do	2
rough from quarry	per ton	2
Plows	each	3
Poles, telegraph	do	½
Potatoes and roots	per bushel	½

SCHEDULE.—GENERAL TARIFF OF TOLLS AND DUES—Continued.

GOODS—continued.

		Cents.
Rags	per ton	15
Rakes (hay), snaths, and forks	per dozen	1
Rakes, horse	each	5
Rice	per bag	4
Root slicers	each	5
Salt	per barrel	¼
Do	per ton	1½
Sand	do	1½
Saw logs	per 1,000 feet B. M.	1
Sewing machines	each	10
Sheep	per head	2
Shingles	per 1,000	¼
Shingles or stave bolts	per cord	3
Shovels	per dozen	3
Slate	per 10 feet square	3
Soap	per 100 pounds box	1
Spirits of all kinds and wines	per barrel	10
Do	per half barrel	5
Do	per keg or quarter barrel	2½
Do	per dozen bottles	2
Staves:		
fish, flour, and salt	per 1,000	2
pike	do	20
West India	do	15
Stone:		
block, in the rough	per ton	15
cut	do	20
Stone or gravel or earth ballast for shipping	do	2
Stoves	do	20
Straw cutters and hay cutters	each	5
Sugar	per hogshead	10
Swine	each	2
Teas	per chest	2
Ties, railroad	each	¼
Timber	per 1,000 feet	5
Timothy seed	per bushel	2
Tobacco	per 100 pounds	2
Unenumerated articles	per ton	4
Vehicles undescribed	each	10
Vinegar	per barrel	4
Wood	per cord	3
Wool	per ton	30

STEAMBOATS AND SAILING VESSELS.

The following dues shall be charged on each steamboat and sailing vessel for each day or fraction of a day they make use of any of the said wharves, piers, or breakwaters:

On each steamboat	$1.00
On each sailing vessel:	
under 50 tons	.10
50 tons and under 100 tons	.15
100 tons and under 200 tons	.20
200 tons and under 300 tons	.30
300 tons and under 500 tons	.50
500 tons and under 800 tons	.75
800 tons and under 1,200 tons	1.00
1,200 tons and under 1,600 tons	1.25
above 1,600 tons	1.50

QUARANTINE REGULATIONS FOR THE DOMINION OF CANADA.

[Transmitted by Consul Strong, of Belleville.]

Whereas it is, in and by the Revised Statutes of Canada, chapter sixty-eight, amongst other things in effect enacted, that the Governor in Council may from time to time make such Regulations as he thinks proper for enforcing compliance with all the requirements of the said Act, and concerning the entry or departure of vessels at the different ports or places in Canada; and concerning the landing of passengers or cargoes from such vessels, or the receiving of passengers or cargoes on board of the same as is thought best calculated to preserve the public health; and for ensuring the due performance of quarantine, by and in respect of vessels, passengers, goods, or things arriving at or in the neighborhood of any port or place within Canada, to which he thinks it right for the preservation of the public health that such regulations should apply; and for the thorough cleansing and disinfecting of such vessels, passengers, goods or things, or concerning the arrival at or departure from any place in Canada, of any persons, goods or things conveyed by land; and for ensuring the due performance of quarantine by and in respect of such persons, goods and things at or in the neighborhood of any place in Canada to which he thinks it right for the preservation of the public health that such regulations should apply; and for the thorough cleansing and disinfecting of such persons, goods and things, so as to prevent, as far as possible, the introduction into or dissemination of disease in Canada; and may appoint or remove such officers as he may deem necessary for so doing, and assign to them respectively such powers as he may think requisite for carrying out the provisions of such regulations and may impose penalties, forfeitures, and punishments for the breach thereof; and such regulations shall be published by proclamation, inserted at least twice in the Canada Gazette; and further, that such regulations shall have the force of law; and any person disobeying any such regulations is guilty of a misdemeanor and liable to fine or imprisonment, or both, as the court may direct; or such person may be sued for the penalties contained in such regulations;

And whereas our Governor in Council has been pleased to order that a Proclamation do issue rescinding the Quarantine Regulations contained in the Proclamation dated the third of August, A. D. 1886, and putting into force the following revised and amended regulations relating to quarantine for vessels arriving in the Dominion of Canada, supplementary to the regulations established by the proclamations dated the twenty-third day of May, A. D. 1868, and the twenty-first day of January, A. D. 1873, that is to say:—

For Steamships or Sailing Vessels by the St. Lawrence.

1. Every steamship or sailing vessel from any port outside of Canada coming to Canada by way of the St. Lawrence, shall be inspected by a duly appointed Quarantine Medical Officer before passing Grosse Isle, and shall not proceed or be allowed to proceed on her voyage until she receives a clean bill of health; with the exception that,—

2. Each of the steamships conveying Her Majesty's mails, shall be met and inspected by a Quarantine Medical Officer at the point of Rimouski, and a clean bill of health from such officer shall be equivalent to a clean bill of health granted by the Quarantine Officer at Grosse Isle, such mail vessels being amenable in all other respects, to the Quarantine Regulations.

3. No passenger nor any other person shall be allowed to land from any mail steamship at Rimouski until declared by the Quarantine Officer free from infectious disease or well founded suspicion thereof, nor unless the said officer is satisfied that such person may be allowed to land without danger to the public health.

4. Any person or persons ill with cholera, smallpox, or other infectious disease, as defined in the Quarantine Regulations under the Proclamation of May 23rd, 1868, shall be landed at Grosse Isle for treatment, and the vessel disinfected and allowed to proceed or be detained in such manner as may be deemed expedient by the Medical Officer for the protection of the public health, under the provisions of the said Quarantine Regulations.

5. No steerage passengers shall be allowed to pass the inspection stations, that is Rimouski for the mail steamships, and Grosse Isle for all other vessels, without furnishing evidence to the satisfaction of the Quarantine Medical Officer of having been vaccinated within the seven previous years, or having had the smallpox within that period; and, in case when the smallpox has occurred in any vessel during the voyage, this regulation shall also apply to every person on board. The production of a certificate by a ship's surgeon, called "a protection card," and his testimony under oath verifying the truth of such certificate, may be taken by the Quarantine Medical Officer as evidence of such vaccination and protection. The Quarantine Medical Officer shall, however, from time to time, make personal examination of holders of such certificates to satisfy himself of the manner in which they have been issued.

6. Any person to whom the definitions in the next preceding section would apply as not having shown satisfactory evidence of having been vaccinated within the seven previous years, or having had the smallpox within that period, in accordance with the requirements of such section, shall be vaccinated by the examining Quarantine Medical Officer, or in the event of refusal shall be landed at Grosse Isle, subject to a quarantine of observation; and the expense of the maintenance of such person during such quarantine of observation shall be a charge against the vessel.

7. The Quarantine Medical Officer at Grosse Isle or Rimouski shall examine any officer or surgeon or medical man of any steamship or sailing vessel, under oath, touching the state of health of such ship or vessel and of every person on board, in such form as shall be prescribed by the Minister of Agriculture, and it shall be the duty of the pilot on each such steamship or sailing vessel to hand to the ship's officer or surgeon a printed copy of the questions required to be answered under oath.

8. Every steamship or sailing vessel arriving with infectious disease shall be liable to be detained at the Quarantine Station for disinfection, together with its cargo and passengers and crew, but every steamship or vessel provided with one isolated hospital for men, and another for women, on the upper deck, ventilated from above and not by the door only, may, in the discretion of the Quarantine Medical Officer, if he is furnished with satisfactory evidence that such hospitals have been promptly and intelligently made use of, be allowed to proceed after the landing of the sick and the disinfection of such hospitals; any vessel, however, arriving with infectious disease, without having such special isolated and ventilated hospitals, or having them, without satisfactory evidence that such hospitals have been promptly and intelligently made use of, shall be liable to be detained for disinfection at the Quarantine Station.

9. The master of every steamship or sailing vessel arriving from any port outside of Canada shall produce a certificate of quarantine inspection and clearance from Rimouski, in the case of mail steamships, and from Grosse Isle, in the case of all other vessels, before being allowed to make a Customs entry at the port of Quebec or Montreal.

10. A second quarantine inspection shall not be held to be necessary at Quebec; but in the event of the Inspecting Physician at Quebec, in pursuance of his port duties, finding infectious disease, as defined in section 4 of these regulations in any steamship or sailing vessel, he shall promptly order it to go back to Grosse Isle.

For all other organized Quarantine Ports of the Dominion.

11. Every steam or sailing vessel from any port outside of Canada, arriving at any regularly organized quarantine port (having a quarantine station) that is to say: At Halifax, or Pictou, or Hawkesbury, or Sydney (Cape Breton), in the Province of Nova Scotia; or St. John, or the Harbour of Miramichi, in the Province of New Brunswick; or Charlottetown, in the Province of Prince Edward Island; or Victoria, in the Province of British Columbia, shall be subject, in so far as they can be made to apply, to the foregoing regulations relating to the St. Lawrence, as respects inspection, by the Quarantine Medical Officer of the several ports or harbours, before being allowed to make a Customs entry; and any vessel which it shall be considered necessary to detain shall be dealt with in accordance with the Quarantine Regulations of 1868, aforesaid.

For all ports under Quarantine directions of Collectors of Customs.

12. At every other port in Canada, at which there is not a regularly organized Quarantine Station and at which the Collector of Customs is authorized by the Proclamation of 21st January, 1873, made in pursuance of the Act 35 Victoria, chapter 27, such Proclamation being continued in force by Section II, 49 Victoria, chapter 68 of the Revised Statutes of Canada, the Collector shall, in the case of any steamship or sailing vessel arriving from any port known to be infected and of which notification is published in the *Canada Gazette*, cause a medical inspection to be made of such vessel, and shall not grant a Customs entry, except on the production of a clean bill of health after such inspection.

13. In the event of any infectious disease, such as defined in section 4 of these regulations, being found in any steam or sailing vessel arriving at any port which is under quarantine direction of a Collector of Customs, such vessel shall be dealt with in the manner prescribed in the General Regulations of 21st January, 1873, aforesaid, applying to such port, supplemented by the foregoing regulations in so far as they can be made to apply.

Signals for Quarantine Inspection.

14. Every steam or sailing vessel from any port outside of Canada requiring quarantine inspection shall, on arrival at any Port in Canada, display a yellow flag at the fore, for a distinctive Quarantine signal, in order to inform the Quarantine Officer or Collector of Customs acting as such, that his services are required, as directed by the Quarantine Regulations, aforesaid, and any such vessel by the St. Lawrence, arriving at Quarantine Station of Grosse Isle by night, shall display a red light for such signal.

How rags are to be dealt with.

15. Rags coming from countries or ports in which infectious disease prevails, as defined in section 4 of these regulations, the names of such countries or ports being, from time to time published in the *Canada Gazette*, shall be prohibited from landing at any port in Canada, but rags collected in countries which have been free from the prevalence of infectious disease during the six months prior to the shipment of such rags, shall be admitted without any special treatment, if accompanied by a proper evidence of origin.

Hours of inspection.

16. The hours during which Quarantine inspection, the mail steamships excepted, shall take place at any Quarantine Station or any port in Canada, shall be between sunrise and sunset; with the further exception that at the Quarantine Station of Grosse Isle, inspection will be made during any hour of the twenty-four.

Penalties for Pilots and all Officers and Masters of Vessels.

17. Every pilot shall be furnished with printed copies of these regulations, one of which it shall be his duty to hand to the master of every steam and sailing vessel coming from a port outside of Canada immediately after going on board of such vessel, under a penalty not exceeding two hundred dollars.

18. Every Collector of Customs, officer or other person charged with putting into effect or having any duties in connection with the foregoing regulations, shall be liable to a penalty not exceeding four hundred dollars and imprisonment until such penalty is paid, for any contravention of such regulations or for omission or neglect of duty in relation to them.

19. Every master of a steam or sailing vessel shall be liable to a penalty not exceeding four hundred dollars and to imprisonment until such penalty is paid for any contravention of any of the foregoing regulations, and such vessel shall be held liable for any pecuniary penalty imposed on the master.

FORM.

Questions to be answered under oath to Quarantine Officers by masters, surgeons, or officers of vessels.

———, ———, 18—.

1. What is your vessel's name and your name?
2. From what port and at what date did your vessel sail?
3. What is your cargo and when taken on board?
4. Has your vessel touched at any place or places on her voyage?
5. Was such place or places or any of them to your knowledge infected with cholera, small pox, plague, or any pestilential fever or disease?
6. How many persons were on board when the vessel sailed?
Cabin passengers ———, intermediate ———, steerage ———, cattlemen ———, crew ———; total ———.
7. State whether any person on board during the voyage has been ill with any of the diseases above referred to, and if so how many?
8. State whether, in your opinion, any person on board has been, or is now infected with any such diseases.
9. Has any person died on board during the present voyage? and if so, state all particulars.
10. Has each of the steerage passengers on board signs of having been vaccinated within seven years, or of having had the small pox within that period?
11. (Question to be asked in the event of small pox having occurred during the voyage, to ship's surgeon, if such is on board). Have you personally, during the present voyage, examined each one of the passengers and crew for proof of satisfactory vaccination within seven years, or of having had the small pox within that period?

12. Did you or any of the crew or passengers, within your knowledge, land at any place or places within Canada during the present voyage?
13. Is there any person on board lunatic, idiotic, deaf and dumb, blind or infirm, and if so, is such person accompanied by relatives or guardians?
14. Have you an isolated hospital for men and another for women, ventilated from above and not from the passage?
15. Were such hospitals or one of them immediately made use of on the occurrence of disease?
16. Are there any other facts which, in your opinion, should be communicated?

——— ——— *Master.*
——— ——— *Surgeon.*

I, ——— ——— Master, ——— ——— Surgeon, (here state whether ship's master, or occupying another position on board) do solemnly and sincerely swear to the exactness and truth of the answers to the above questions signed by me. So help me God.

——— ——— *Master.*
——— ——— *Surgeon.*

Sworn before me at ——— this ——— day of ——— 188—.

Quarantine Officer and Justice of the Peace authorized by Order in Council under the Act 35 Vic., chap. 27, intituled "An Act relating to Quarantine."

FORM.

Quarantine officer's certificate for customs collector.

PORT OF ——— ———,
Quarantine Station, ——— ———.

I hereby certify that the ——— ——— master, has been inspected and admitted to pratique and has permission to proceed.

———,
Quarantine Officer.

Now know ye that we do hereby command and enjoin all our loving subjects and all others whom these presents may concern, that they do take notice of and obey the said regulations so made as aforesaid, and to govern themselves accordingly.

In testimony whereof we have caused these our letters to be made patent, and the great seal of Canada to be hereunto affixed. Witness, our right trusty and entirely beloved cousin the most honorable Sir Henry Charles Keith Petty-Fitzmaurice, Marquis of Lansdowne, in the county of Somerset, Earl of Wycombe, of Chipping Wycombe, in the county of Bucks, Viscount Calne and Calnstone in the county of Wilts, and Lord Wycombe, baron of Chipping Wycombe in the county of Bucks, in the peerage of Great Britain; Earl of Kerry and Earl of Shelburne, Viscount Clanmaurice and Fitzmaurice, Baron of Kerry, Lixnaw, and Dunkerron, in the peerage of Ireland; knight grand cross of our most distinguished order of St. Michael and St. George; governor-general of Canada and vice-admiral of the same.

At our Government House, in the city of Ottawa, this eighteenth day of July, in the year of our Lord one thousand eight hundred and eighty-seven, and in the fifty-first year of our reign.

By command.

J. A. CHAPLEAU,
Secretary of State.

PROVINCE OF ONTARIO.

MORRISBURG.

REPORT BY COMMERCIAL AGENT LEISHMAN.

PILOTAGE.

In the Dominion of Canada the pilotage act applies chiefly in its operation to the principal or sea ports of that country. It provides that harbors with their adjacent waters, embraced within certain geographical limits constitute pilotage districts. The harbors of Montreal, Que-

bec, Halifax, and St. John within certain defined waters constitute four pilotage districts, with commissioners appointed at each harbor, in whom is vested pilotage authority. Pilotage is compulsory within the limits of any district to home and foreign vessels, and the pilot charges are the same for all vessels. No foreign flag enjoys any special privileges, and foreign war vessels and vessels in distress pay pilotage.

The following ships are exempted from the compulsory payment of pilotage dues:

(*c*) Ships propelled wholly or in part by steam employed in trading from port to port in the same province, or between any one or more of the provinces of Quebec, New Brunswick, Nova Scotia, or Prince Edward's Island, and any other or others of them, or employed on voyages between any port or ports in said provinces or any of them and the port of New York, or any port of the United States of America on the Atlantic north of New York, except only in the ports of Halifax, Sydney pilotage district, Miramichi and Pictou, as respects each of which ports the pilotage authorities of the district may, from time to time determine, with the approval of the governor in council, whether any, and which, if any, of the steamships so employed shall or shall not be wholly or partially, and if partially, to what extent and under what circumstance, exempt from the compulsory payment of pilotage dues.

(*d*) Ships of not more than eighty tons registered tonnage.

(*f*) Ships of such description and size not exceeding two hundred and fifty tons registered tonnage, as the pilotage authority of the district, with the approval of the governor in council, from time to time, determines to be exempt from the compulsory payment of pilotage in such district; provided always, that this paragraph shall not apply to the river St. Lawrence, where all ships registered in Canada, if not more than two hundred and fifty tons registered tonnage, shall be exempt.

LIGHT DUES.

There are no light dues collected in this country from any vessels. All lights, buoys, beacons, and fog-alarms are constructed and maintained out of the general funds of the Government.

The altitude of the various lights is given from high-water mark and varies at the different points where lights are stationed.

In clear weather the distance at which the various lights stationed in this country are visible range from 3 to 28 miles, calculated from a hight of 15 feet above the sea. The lights used are fixed, flashing, revolving, intermittent, and alternating.

TONNAGE DUES.

There shall be levied and collected on every vessel arriving in any port in the province of Quebec, Nova Scotia, New Brunswick, Prince Edward Island, or British Columbia, a rate of duty of 2 cents for every ton which such vessel measures, registered tonnage, to form a fund to be known as the "the sick mariner's fund."

Vessels of 100 tons or less shall be liable to the payment of said duty once every year, but not oftener, and of more than 100 tons three times per year.

Steamboat inspection dues are 4 cents per ton and a fee of $5 for a steamboat not exceeding 100 tons and a fee of $8 for those exceeding 100 tons, payable once each year. Not collected from foreign vessels, except the governor in council may direct that any steamboat not registered in Canada but employed in Canada in carrying mails, passengers, or troops, also any steamboat or class of steamboats registered elsewhere than in Canada, but plying between any port or place in Canada and any port or place out of Canada shall be subject to the provisions of the steamboat inspection act of Canada.

Police dues are levied upon every vessel entering either the port of Montreal or Quebec. The duty charged is 3 cents per ton, registered tonnage, payable once per year on vessels not exceeding 100 tonnage and on those of more than 100 tonnage twice in each calendar year.

QUARANTINE.

The principal ports of Canada have quarantine stations. Asiatic cholera, fevers, smallpox, scarlatina, or measles, or other infectious or dangerous diseases, are quarantined, and the law provides that the collector of customs of each and every port of Canada, except the regular quarantine stations of Quebec, Halifax and St. John, New Brunswick, and any other quarantine station which has been or may hereafter be established by proclamation of the governor-general, is authorized to act as quarantine officer. There are no quarantine rules established by the province of Ontario.

SELLAR LEISHMAN,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Morrisburg, August 6, 1889.

BAY OF QUINTE.

REPORT BY CONSUL STRONG, OF BELLEVILLE.

In replying to the several interrogatories of the circular received from the Department of State, I am governed by the regulations and laws in force upon the inland waters within this consular jurisdiction, which embraces the bay of Quinte, and which are not unlike the laws governing other Canadian waters, excepting the Lower St. Lawrence and maritime ports. Pilotage is not compulsory for vessels of this country or any foreign country. No discrimination is exercised in favor of any vessel. Light-houses are maintained by the Dominion Government or by parties owning docks upon the inland waters, and who are compensated by shippers of merchandise in the way of storage and dock charges.

No vessel is subject to light dues.

Sailing vessels are required to be annually examined and their hulls inspected, which establishes their rating for insurance.

All steam vessels whether for freight or passenger traffic are required to receive an annual inspection, by the inspector of boilers and machinery, as well as the inspector of hulls, who are appointees of the Dominion Government. The license as to the number of passengers a boat is authorized to carry is established by this inspection, as well as the number of engineers required for each boat, whether in the passenger or freight traffic, and the qualifications of engineers, who, if found qualified upon examination, are licensed and rated.

The Bay of Quinte, which is shut off from the Lake Ontario by Prince Edward County, a long peninsula extending from the Trent River around to the gap, a distance of 50 miles, has several commodious harbors with sufficient depth of water to float any craft sailing upon Lake Ontario or the Upper St. Lawrence. Trenton, at the mouth of the Trent, at the head of the bay; Belleville, 12 miles below at the mouth of the Moira; Deseronto, 18 miles still farther down, and

Napanee at the lower extremity of the bay, at the mouth of the Napanee River, all possess good harbors, and are important shipping points for lumber and agricultural products. Picton, the county seat of Prince Edward, 10 miles up the gap, also has a fine harbor and is the principal shipping point of the county.

These several harbors are under local and municipal control, and all dues upon vessels are equitably imposed and without prejudice to any flag.

Quarantine laws are enforced in all cases of contagious disease, it being the duty of the master of a vessel to display the signal in case of contagious disease prevailing on board.

In inland waters the collector of the port has jurisdiction in matters pertaining to health.

JOHN M. STRONG,
Consul.

UNITED STATES CONSULATE,
Belleville, August 13, 1889.

CHATHAM.

REPORT BY CONSUL EDDY.

PILOTAGE.

This only extends to the navigation of the river St. Lawrence below Montreal, and at Quebec, Halifax, and St. John's. No special privileges to any foreign flags, and the dues are the same to all vessels except that Her Majesty's ships are not charged dues. There is nothing of the kind in my district.

LIGHTS AND LIGHT DUES.

There are no light dues in my district, nor can I find there are any in Canada; and there are only two lights, one at the junction of the river Thames and Lake St. Clair, the other at Rondeau Harbor on the north side of Lake Erie. The first is a stationary light, *white*, about 40 feet high, and can be seen about 20 miles. The one at Rondeau Harbor is a revolving light, white and red, and is about 50 feet high and can be seen about 30 to 60 miles; and all vessels are liable to harbor dues at the Rondeau, but no distinction is made between foreign and Canadian vessels. There are no tonnage dues levied in this district.

QUARANTINE.

The governor in council, under the act restricting quarantine in Canada, may make quarantine regulations such as he thinks proper for enforcing compliance with the act concerning the entry and departure of vessels at different ports and places in Canada and concerning the landing of passengers and cargo, concerning the same as is thought best to preserve the public health, and for cleansing and disinfecting vessels, passengers and things to prevent the introduction into or dissemination of diseases in Canada, and may appoint officers for that purpose. Vessels coming up the St. Lawrence from below Grosse Isle, are to be anchored and must be reported to the quarantine officer, who is to be allowed to

inspect the vessel, cargo, passengers, and crew. If found necessary the vessel, cargo, passengers, and crew are to be cleansed and purified to prevent the spread of any contagious disease, and shall remain as long as the quarantine officer thinks necessary. The same process is given to persons arriving by land to any place in Canada. The quarantine officer has power under the regulations to direct that no vessel be cleared or entered until his written permission is given. Medical officers are also appointed for the principal harbors. Vessels from sea not bound for a Canadian port arriving with contagious or infectious diseases on board remaining in quarantine at or near such port shall pay to the customs collector $2, head money, for each person on board at the time of her arrival, but such vessel, if bulk has not been broken, may put to sea again instead of being quarantined, provided the Medical officer is satisfied that the sick will be properly cared for during the remainder of the voyage, and it is further provided that any of the sick preferring to remain may do so, and the physician shall take care of them.

Diseases quarantined: All infectious and contagious diseases, in the opinion of the quarantine officers.

The duration of quarantine is discretionary with the quarantine officer. There does not appear to be any expense, except to the Government of Canada.

The quarantine rules are established by the General Government, through the local board of health, and municipal authorities, when contagious and infectious diseases break out in any locality, have power to prevent the disease spreading by forcing patients to the hospitals, or preventing intercourse at the place where the disease is located.

JEROME EDDY,
Consul.

UNITED STATES CONSULATE,
Chatham, January 25, 1890.

FORT ERIE.

REPORT BY CONSUL WHELAN.

In the matter of harbor circular, I have to report that there are no pilot charges or light dues collected at this port. The channel is on the New York side of the Niagara River, and the light-houses and lights are all maintained by the United States. The Canadian Government has built no light-house here, nor do they maintain lights of any kind. The only dues collected now are an entrance feet of 50 cents, and a like amount for clearance.

All vessels laden or not, except Canadian licensed coasters, pay those fees.

The Canadian customs officials here have no instructions as to quarantine, and the Dominion regulations relating thereto are not enforced. In the event of an epidemic across the border, the municipal authorities take action, as in the case of prevalence of smallpox a short time ago, when they published an order, requiring all persons entering, who had not been recently vaccinated, to submit to the operation.

JAMES WHELAN,
Consul.

UNITED STATES CONSULATE,
Fort Erie, August 12, 1889.

COLLINGWOOD, GEORGIAN BAY.

REPORT BY COMMERCIAL AGENT DAVIS, OF COLLINGWOOD.

PILOTAGE.

Pilotage is not compulsory for vessels frequenting the ports of Georgian Bay, either on vessels of this country or foreign.

There being no pilot service, there is no distinction or special privileges.

LIGHT AND LIGHT DUES.

There are no light dues payable on Georgian Bay.

The principal lights are good, being the French dioptric of 120 feet altitude, and visible 15 to 20 miles, and well located for navigation. There are numerous other fixed lights of lesser magnitude at all necessary points on Georgian Bay.

TONNAGE DUES.

Tonnage dues are collected from all vessels, whether in the foreign or coasting trade, laden or in ballast, with the exception of vessels belonging to or employed by Her Majesty and the Government of the Dominion of Canada, and ships engaged in trading between ports and places in the Dominion or in the fishing trade.

There is no discrimination in regard to flag.

QUARANTINE.

There is no quarantine on Georgian Bay.

HIRAM DAVIS,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Collingwood, August 3, 1889.

HAMILTON.

REPORT BY CONSUL ROBERTS.

No pilots are required. Consequently pilotage is not compulsory for vessels, foreign or domestic. There are no light dues. There are two stationary lights (white), on vertical piers at the canal inlet to Hamilton Bay from Lake Ontario. One of these lights is stationed at the extreme end of the double pier on the lake, and the other about midway of the canal at the turn-bridge of the Northwestern Railway, which crosses the canal.

There are no tonnage dues and no quarantine regulations.

ALBERT ROBERTS,
Consul.

UNITED STATES CONSULATE,
Hamilton, Ontario, July 24, 1889.

KINGSTON.

REPORT BY CONSUL TWITCHELL.

PILOTAGE.

The law of pilotage only affects vessels on the river St. Lawrence for and below Quebec, so that at this port no restrictions exist, all vessels having equal rights.

LIGHT DUES.

None are collected at this port, and none, I believe, are required in the Dominion.

TONNAGE DUES.

Tonnage dues are charged on Canadian and British steam vessels only.

I have to report in reference to special privileges that all unlicensed vessels must pay a fee of 50 cents on entering, and 50 cents on leaving this port; but these two fees are abolished in the case of a licensed vessel, and only Canadian vessels are permitted to take out this license, which is given free of expense.

QUARANTINE.

No quarantine regulations are in force at this port, consequently cattle can not be imported through the port of Kingston.

M. H. TWITCHELL,
Consul.

UNITED STATES CONSULATE,
Kingston, July 22, 1889.

PORT STANLEY AND ST. THOMAS.

REPORT BY CONSUL QUIGGLE.

PILOTAGE.

Pilotage is not compulsory at the ports within my jurisdiction, for either foreign or domestic vessels.

LIGHT DUES.

No light dues are exacted or tonnage dues collected.

QUARANTINE.

No rules have been adopted as to quarantine. The only charges made against vessels are for clearances of unlicensed ones.

JAMES C. QUIGGLE,
Consul.

UNITED STATES CONSULATE,
Port Stanley and St. Thomas, September 26, 1889.

PRESCOTT.

REPORT BY CONSUL HALL.

PILOTAGE.

Pilotage is not compulsory, licensed masters of steam or other vessels, if competent to pilot can do so, if not competent and entering the river at Cape Vincent, American pilots are taken, or Canadian, pilots if entering the river at Kingston, in either case the charge for pilotage is the same.

LIGHTS AND LIGHT DUES.

No light dues of any kind whatsoever. Lights are maintained by General Government. The light in this district is situated 2 miles below the port, and is considered by mariners one of the best on the river. Altitude 100 feet, color white, visible in clear weather 18 miles.

TONNAGE DUES.

Canadian steamers pay an annual inspection fee of from $5 to $8 (according to measurement) and 4 cents per ton register. American steam and other craft pay a landing fee on each arrival and departure, of 50 cents in and 50 cents out. No landing fee exacted from Canadian steam or other vessels.

QUARANTINE.

Quarantine rules are established by the General Government. There are no rules applying particularly to this port. If occasion required the establishment of quarantine, the municipal and provincial governments would act in concert with the General Government. If necessary the General Government would assume full control of all quarantine regulations.

WILLIAM C. HALL,
Consul.

UNITED STATES CONSULATE,
Prescott, August 9, 1889.

TORONTO.

REPORT BY VICE-CONSUL HIRSCHFELDER.

PILOTAGE.

Pilotage is not compulsory in any case either for foreign vessels or vessels of this country.

LIGHTS AND LIGHT DUES.

There are no light dues charged.

There is a revolving light on the island which serves to guide all vessels entering this port. There are also two range lights on the Queen's wharf, which is situated at the western extremity of Toronto Bay through

which all vessels have to enter coming from the east, south, or west, as what is known as the Eastern Gap, which was once navigable for large vessels, has now a sand bar formed across it and will require considerable dredging before it can be used again.

The island revolving or flash light is 1¾ miles south of Toronto, in latitude 43° 37′, longitude 79° 28′ 30″. The light is white and visible 18 miles in clear weather. It is hexagonal in shape and rests on a stone column 62 feet high. It was first lighted in 1820.

The range lights on the Queen's wharf are visible 6 miles in clear weather. One is a red light, which is 36 feet 8 inches above the high-water mark; the other is white and 21 feet 6 inches above the high-water mark.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels, whether in the foreign or coasting trade, laden or in ballast; but vessels collect from consignee, otherwise there would be no guaranty that dues would be paid.

There is no discrimination in regard to flag.

All vessels enjoy the same privileges without regard to nationality.

QUARANTINE.

There is no quarantine at this port.

Tariff of harbor dues.

MERCHANDISE, ETC.

	Cents.
Government stores and all unenumerated articles, as per bill of lading, per ton of 2,000 pounds	5
Coal ..... per ton of 2,000 pounds..	5
Wood ..... per cord..	5
Stone ..... per toise..	10
Unwrought building stone ..... per ton..	3
Molding sand ..... do....	3
Fruit:	
Barrels ..... each..	2
Boxes ..... do....	1
Baskets ..... do....	½
Fire bricks ..... per thousand..	10
Common bricks ..... do....	5
Bundles of shingles ..... per bundle..	2
Laths and hoops ..... per thousand..	2
Lumber, sawed or square ..... per 1,000 feet B. M..	5
All grain and pulse ..... per 100 bushels..	10
Sheep, pigs, or calves, in carcass ..... each..	4
Hogs and sheep, live stock ..... do....	2
Carriages, parts of sleighs, horses and horned cattle ..... do....	10
Brooms ..... per gross..	2½

CHARLES A. HIRSCHFELDER,
Vice-Consul.

UNITED STATES CONSULATE,
Toronto, July 29, 1889.

PROVINCE OF QUEBEC.

MONTREAL.

REPORT BY CONSUL-GENERAL ANDERSON.

Upon exam ination of the laws pertainingt o the subjects referred to, as well as upon personal inquiry, I find that the questions with respect to pilotage being compulsory, payment of light dues and tonnage dues are to be answered in the negative, and consequently there is no discrimination.

The payment of pilotage dues is compulsory with but few exceptions, which are given on page 80 of the Acts relating to the Harbor Commissioners of Montreal, a copy of which will be transmitted under separate cover.

I beg to invite attention to the fact that navigation within the jurisdiction of this consulate-general is only by river and lake, and that the publications transmitted relate chiefly to the harbor of Montreal and the river St. Lawrence below this port.

WENDELL A. ANDERSON,
Consul-General.

UNITED STATES CONSULATE-GENERAL.
Montreal, July 30, 1889.

[Inclosure 1 in Consul-General Anderson's report.]

Rates and dues to be levied in the harbor of Montreal on and after the 23d day of May, 1888.

WHARFAGE DUES TO BE LEVIED ON ALL MERCHANDISE, ANIMALS, AND THINGS WHATSOEVER LANDED OR SHIPPED IN THE HARBOR.

		Cents.
All goods, wares, and merchandise not elsewhere specified	per ton..	25
Hay, straw, pig and scrap iron, pot and pearl ashes	do....	20
Apples, crates and their contents, flour and meal, fish, meats, pitch, potatoes, tar, horses, neat cattle, sheep, swine	per ton..	15
Ballast, clay, fire bricks, gypsum, lime, marble, phosphates, sand, salt	do....	10
Coal and coke, grain and seeds of all kinds	do....	7½
Special:		
Bricks	per thousand..	10
Cordwood	per cord..	5
Lumber	per 1,000 feet B. M..	10
Bullion, specie		Free.

On all goods, wares, and merchandise whatsoever, the quantity of which by weight, measurement, or other mode of estimate provided for in the tariff, can not be conveniently ascertained, it shall be lawful for the harbor commissioners to levy a rate of ¼ of 1 per cent. on the value thereof.

Each entry shall pay not less than 5 cents.

All property landed on the wharves for reshipment shall only pay one wharfage.

The ton mentioned in the tariff of wharfage dues shall be 2,000 pounds weight, or 40 cubic feet measurement, according to the bill of lading.

STANDARD FOR ESTIMATING WEIGHTS.

Ashes, pot or pearl, 3 barrels to 1 ton; apples, flour, meal, potatoes, 9 barrels to 1 ton; fish, meats, pitch, tar, 7 barrels to 1 ton; horses, 2 to 1 ton; neat cattle, 3 to 1 ton; sheep, 15 to 1 ton; swine, 10 to 1 ton.

Certified,

H. D. WHITNEY,
Secretary.

HARBOR COMMISSIONERS' OFFICE,
Montreal, March 26, 1881.

[Inclosure 2 in Consul-General Andrews's report.]

Tariff of pilotage between the harbors of Quebec and Montreal and between the several places therein mentioned duly made and passed by the harbor commissioners of Montreal on the 15th February, 1877, and approved by his excellency the governor-general in council on the 5th March, 1877.

From the harbor of Quebec to Portneuf and the opposite side of the river St. Lawrence, or below Portneuf and above the harbor of Quebec:

For the pilotage of any vessel in tow or propelled by steam (except as hereinafter mentioned), for each foot of draft of water—

Upwards	$0.50
Downwards	.50

For the pilotage of any sea-going vessel propelled by steam, for each foot of draft of water—

Upwards	.62½
Downwards	.62½

For pilotage of any vessel under sail, for each foot of draft of water—

Upwards	1.05
Downwards	.70

From the harbor of Quebec to Three Rivers and the opposite side of the river St. Lawrence, or any place above Portneuf and below Three Rivers:

For the pilotage of any vessel in town, or propelled by steam (except as hereinafter mentioned), for each foot of draft of water—

Upwards	1.50
Downwards	1.50

For the pilotage of any sea-going vessel propelled by steam, for each foot of draft of water—

Upwards	1.75
Downwards	1.75

For the pilotage of any vessel under sail, for each foot of draft of water—

Upwards	2.60
Downwards	1.90

From the harbor of Quebec to Sorel and the opposite side of the river St. Lawrence, or any place above Three Rivers and below Sorel:

For the pilotage of any vessel in tow or propelled by steam (except as hereinafter mentioned), for each foot of draft of water—

Upwards	1.50
Downwards	1.50

For the pilotage of any sea-going vessel propelled by steam, for each foot of draft of water—

Upwards	1.87½
Downwards	1.87½

For the pilotage of any vessel under sail, for each foot of draft of water—

Upwards	3.15
Downwards	2.19

From the harbor of Quebec to the harbor of Montreal, or to any place above Sorel and below the harbor of Montreal:

For the pilotage of any vessel in tow or propelled by steam (except as hereinafter mentioned), for each foot of draft of water—

Upwards	2.00
Downwards	2.00

For the pilotage of any sea-going vessel propelled by steam, for each foot of draft of water—

Upwards	2.50
Downwards	2.50

For the pilotage of any vessel under sail, for each foot of draft of water—

Upwards	4.20
Downwards	2.80

From the harbor of Montreal to Sorel, or to any place above Sorel and below Hochelaga, and from Sorel, or any place above Sorel and below Hochelaga, to the harbor of Montreal, for each foot of draft of water for each such pilotage—

Upwards	1.00
Downwards	1.00

For the removal of any vessel from one wharf to another, within the limits of the harbor; or from any of the wharves into the Lachine Canal; or out of said canal to any of the wharves in the harbor; or from the foot of the current; or from Longueuil into the harbor; or from the harbor to the foot of the current, or to Longueuil; for each such service.... 5.00

HARBOR COMMISSIONERS' OFFICE,
Montreal, March 26, 1877.

H. D. WHITNEY,
Assistant Secretary.

GASPÉ BASIN.

REPORT BY CONSUL DICKSON.

PILOTAGE.

Pilotage is not compulsory; vessels coming into port the first time generally take a pilot in the outer bay.

Pilot charges are the same for Canadian as for foreign vessels.

No foreign flag enjoys special privileges in this regard.

Pilot charges for vessels in distress and foreign war vessels are optional.

LIGHTS AND LIGHT DUES.

Light dues for the present are abolished.

The average height of the lights is from 45 to 137 feet above high-water mark; seen about 15 miles distant.

TONNAGE DUES.

The only tonnage dues collected are, the sick mariner's fund, medical attendance (which is 2 cents per ton for vessels of all nations), and harbor master's dues, for every ship of 200 tons or under, $1, for every ship of more than 200 tons, but not more than 300 tons, $2, and from that up, 1 cent per ton.

There is no discrimination in regard to flag.

No vessels of any nationality enjoy special privileges.

ALMAR F. DICKSON,
Consul.

UNITED STATES CONSULATE,
Gaspé Basin, July 30, 1889.

THREE RIVERS.

REPORT BY CONSUL ROSSE.

PILOTAGE.

Pilotage is compulsory in all cases for vessels of the country as well as for foreign vessels.

Pilotage charges are the same for vessels of the country as well as for foreign vessels.

No foreign flag enjoys any special privileges in this regard.

Vessels in distress and foreign war vessels pay pilotage if they have the services of a pilot.

LIGHTS AND LIGHT DUES.

The collector of customs here informs me there are no light dues. In regard to the general character of the lights—altitude, distance visible, etc.—I can obtain no reliable information.

TONNAGE DUES.

I am informed that the pilotage tariff, which I inclose, covers these dues. There is no discrimination in regard to flag. No vessels enjoy special privileges.

QUARANTINE.

Vessels from infected sections are required to report at quarantine station for examination by health officer. Diseases quarantined are, smallpox, yellow fever, and cholera, and any other which the government may designate, and the duration of the quarantine is at the discretion of the health officer, and the vessel is chargeable with the expense of detention and fumigation, both as to passengers and cargo.

I am indebted to the collector of customs of this port and the secretary of the board of trade of this city for the above information.

J. M. ROSSE,
Consul.

UNITED STATES CONSULATE,
Three Rivers, July 26, 1889.

[Inclosure in Consul Rosse's report.]

Pilotage tariff for and below the harbor of Quebec from the beginning of season, 1892.

[Per foot, draft of water.]

From—	Upwards.	Downwards.
May 1 to November 10	$3.87	$3.40
November 10 to 19	4.95	4.46
November 19 to March 1	6.02	5.54
March 1 to May 1	4.41	3.93

BRITISH COLUMBIA.

REPORT BY CONSUL STEVENS, OF VICTORIA.

PILOTAGE.

Pilotage is compulsory in all cases for national as well as for foreign vessels.

Pilot charges are the same for all vessels, national and foreign. No foreign flag enjoys special privileges in this regard.

Vessels in distress and foreign war vessels do not pay pilotage.

British Columbia is divided into two pilotage districts, viz: (1) Victoria and Esquimalt, (2) Yale and New Westminster.

The ports of the pilotage district of Victoria and Esquimalt shall be as follows: Port of Victoria and the port of Esquimalt.

The limits of said ports shall be inside a line drawn from Clover Point to Brotchy Ledge (upon which a red buoy is placed), bearing about W. by S. ½ S., and a line drawn from Brotchy Ledge to Fisgard light-house (outside Scroggs' Rocks and Brother's Island), bearing approximately W. by N.

The limits for speaking vessels bound into either harbor shall be at or outside a line drawn from Williams' Head to Trial Island, bearing NE. and SW. (All bearings are magnetic.)

Vessels not spoken at or outside this line shall be exempt from all pilotage dues, both inward and outward, unless the services of a pilot are actually employed.

DUES.

Vessels bound to other ports and coming to an anchor in Royal Roads, the pilotage shall be free, except the services of a pilot are employed, when pilotage according to the following graduated scale shall be payable:

	Per foot.
Inside or north of Race Rocks to Royal Bay	$0.75
Beachy Head to Royal Bay	1.50
Pillar Point to Royal Bay	3.00
Cape Flattery to Royal Bay	6.00

For vessels entering into or clearing from the undermentioned ports, the rates of pilotage shall be as follows:

Esquimalt Harbor:	Per foot.
Under sail	$3.00
Under steam or in tow	2.00
Victoria Harbor:	
Under sail	3.00
Under steam or in tow	2.00

Vessels spoken by a pilot in keeping with the act and by-laws and not accepting his services, shall only pay half the foregoing rate.

Vessels proceeding from Victoria to Esquimalt, and *vice versa*, and having discharged or received a portion of their cargo in either harbor, and having paid full pilotage into either harbor, if proceeding with the assistance of steam, shall pay $1.50 per foot.

Any fraction of a foot not exceeding 6 inches shall be paid for as half a foot, and any fraction of a foot exceeding 6 inches shall be paid for as a foot.

Pilots shall, when called upon to do so, remove vessels from one part of either harbor to another part of same harbor for the specific charge of $10 for each and every removal.

The pilotage authority shall have power under this by-law to make such arrangements from time to time concerning the pilotage of vessels making regular trips between Victoria and Puget Sound as to them may appear necessary or expedient in the interests of trade and commerce.

Compulsory payment of pilotage dues is not chargeable against vessels while in Royal Roads, unless such vessels shall enter either or both the harbors of Victoria and Esquimalt.

When a vessel is bound to or from any other port in the province, either laden or in ballast, and does not discharge or receive any cargo, passengers, or mails, but simply enters it as a harbor of refuge, such vessel shall be exempt from pilotage into and out of Esquimalt, excepting in cases where a pilot is actually engaged by the master for such services.

Steamers making regular trips to Victoria and Esquimalt and having paid $3 per foot into and out of either harbor on the inward voyage and returning again to either of said harbors within a period of 20 days, shall only pay $1.50 per foot additional dues on said vessels on the outward voyage (*i. e.*, 75 cents per foot inwards and 75 cents per foot outwards), for pilotage service tendered or rendered until said vessels pass to the westward of a line drawn from Race Rocks to Point Angelos, *i. e.*, to seaward again.

Foreign tugs to pay one-half pilotage outwards, spoken or not.

The ports of the pilotage district of Yale and New Westminster shall be as follows: Port of Burrard Inlet, port of New Westminster, port of Yale, and the several landings on Fraser River.

DUES.

For vessels entering into or clearing from the port of Burrard Inlet the rates of pilotage shall be as follows:

	Per foot.
Vessels under sail	$4.00
Vessels in tow of a steamer	3.00
Vessels under steam	1.50

If the services of a pilot are not required, the vessels spoken shall pay as follows:

	Per foot.
Under sail, or in tow of a steamer	$2.00
Under steam	1.50

The pilotage from Cape Flattery or Royal Roads to a line drawn from Point Atkinson to the Red Buoy on Spanish Bank, and *vice versa*, is not compulsory, but if the services of a pilot are required, he shall be paid the following rates, viz:

For vessels under sail:

From—	Per foot.
Cape Flattery	$6.00
Callum Bay	5.00
Beechy Head	4.00
Race Rocks or Royal Roads	3.00

And for vessels under steam or in tow of a steamer:

From—	Per foot.
Cape Flattery	$3.00
Callum Bay	2.50
Beechy Head	2.00
Race Rocks or Royal Roads	1.00

NEW WESTMINSTER.

From the light-house on Frazer Sandheads to New Westminster for—

	Per foot.
Vessels under sail	$4.00
Vessels in tow of steamer	3.00
Vessels under steam	1.50

From the light-house to Cape Flattery or Royal Roads, and *vice versa*, the pilotage is not compulsory, but if the services of a pilot are required, he shall be paid following rates:

For vessels under sail:

From—	Per foot.
Cape Flattery	$6.00
Callum Bay	5.00
Beechy Head	4.00
Race Rocks or Royal Roads	3.00

For vessels under steam or in tow of a steamer:

From—	Per foot.
Cape Flattery	$3.00
Callum Bay	2.50
Beechy Head	2.00
Race Rocks or Royal Roads	1.00

10. Any fraction of a foot not exceeding 6 inches shall be paid for as half a foot, and any fraction of a foot exceeding 6 inches shall be paid for as a foot.

LIGHTS AND LIGHT DUES.

There are no light dues payable.

The general character of the lights can be understood from the paper A attached hereto.*

TONNAGE DUES.

Tonnage dues are collected from all vessels, home or foreign, 2 cents per ton register, for which all sick mariners are entitled to free medical treatment and residence at the Government marine hospital.

There is no discrimination in regard to flag.

No vessels of any nationality enjoy special privileges.

QUARANTINE.

Diseases quarantined are cholera, smallpox, and all other infectious diseases.

The duration of quarantine for each and from each port is in the discretion of the health officer and the Ottawa authorities (to whom he

* For Canadian lights, see Supplement.

always wires for instruction), and has, within my experience, greatly varied. In the case of the steamship *Mexico*, of San Francisco, arrived June 19, 1884, which was reported in my dispatches at the time, 21 days was the term of detention originally allotted, but the time was shortened one-third.

In the case of the steamship *Umatilla*, arrived January 21, 1888, the detention incurred was only 13 days, although the cause was a genuine case of smallpox—a pantry steward.

The steamship *Olympian* was detained only 3 days. This, however, after exhaustive examination, proved a case of hives.

The quarantine regulations here are very strictly enforced, the health officer boarding every steamer from foreign ports on arrival; in fact the health officer at Vancouver, arriving on the steamship *Premier* a few weeks since, said to have a case of smallpox on board, was himself denied a landing and the steamship was sent back to Vancouver.

The quarantine grounds and buildings established here some 2 years after the affair of the *Mexico* are by no means first class. The expenses of detention and fumigation as to passengers and cargo are borne by the Dominion Government mainly. Quarantine rules are established by the Dominion Government, which has full control in the matter.

ROBT. J. STEVENS,
Consul.

UNITED STATES CONSULATE,
Victoria, October 14, 1889.

List of lights on the coasts and rivers of British Columbia.

No.	Name of light and place.	Latitude, north.	Longitude, west.	Number of lights.	Character.	Color, etc.	Interval of revolution or flash.	Miles seen in clear weather.	Color and any peculiarity of light-house.	Height of light above high water.	Height of building from base to vane.	Years lighted.	Character of illuminating apparatus.
		° ′ ″	° ′ ″							*Feet.*	*Feet.*		
498	Cape Beale, southeast point of entrance to Barclay Sound on west coast of Vancouver Island.	48 47 48	125 12 52	1	Rev.	White[1]	30 seconds	19	White, square, stone, with dwelling attached.	164	35	1874	C.
499	Race Rocks, in Straits of De Fuca....	48 17 45	123 32 0	1	Fl.	....do[2] ..	10 seconds	18	Alternate black and white horizontal bands; circular stone dwelling attached.	118	105	1861	D. 2
500	Fisgard, on a rock at western entrance to Esquimalt Harbor.	48 26 0	123 27 15	1	F	([3])	.....	12	White, circular brick; red brick dwelling attached.	67	56	1861	D. 4
501	Berens Island, western entrance to Victoria Harbor.	48 25 24	125 24 0	1	F	Blue[4] ...	.....	7	White, square, wood dwelling attached; bell tower on seaward side.	44	30	1876	C.
501a	Discovery Island, on eastern extremity of island in the Strait of Haro.	48 25 20	123 13 50	1	F	White[5] .	.....	15	White, square, wood, dwelling attached.	91	47	1886	D. 5
502	Plumper or Active Pass, on Georgia Point, Mayne Island, Straits of Georgia.	48 52 25	123 17 50	1	F	....do[6] ..	.....	12	White, square, wood, with dwelling attached; belfry white, square, wood.	85	42	1885	D. 6
502a	Saturna Island, on eastern point.....	48 47 0	123 3 2	1	Rev.	....do[7] ..	30 seconds	18	White, square, wood, with dwelling attached; iron lantern, red.	140	60	1888	C.
503	Fraser River, on southwest end of Sturgeon Bank north of Sand Heads.	49 5 0	123 16 0	1	F	....do[8] ..	.....	12	White, hexagonal wooden tower on iron pile foundation.	52	49	1886[9]	D. 3
504	Point Atkinson, northwest entrance to English Bay and Burard Inlet.	49 19 42	123 15 54	1	Rev.	....do[10]..	One minute...	15	White, square, wood dwelling attached.	119	49	1875	C.
505	Entrance Island, Nanaimo, Straits of Georgia.	49 12 50	123 48 45	1	F	....do[11]..	.....	14	White, square, wood, with dwelling attached.	65	50	1876	C.

[1] Visible from east round by N. to W. by N. ¼ N. The light should not be brought to bear to the northward of E. ¼ N., as there is foul ground to the northward of the north limit of the light. Entrance to sound should not be attempted without local knowledge or a pilot.

[2] A 12-inch steam fog whistle sounds blasts of 5 seconds, with intervals of 1 minute and 12 seconds.

[3] Shows white in fairway between bearings N. ¼ W. and NW. by W. ¼ W., and clears all off-lying dangers. Shows red from NW. by W. ¼ W. to S. ¼ E. in Esquimalt Harbor, and to vessels bound for Victoria or Esquimalt from the eastward after rounding Trial Island it will indicate their distance from the shore. If bound to Esquimalt a W. SW. course will lead safe outside of Brotchy Ledge until the light changes from red to white, when it may be steered for; not before. A white ray of light is shown to the westward of S. ¼ E. into Esquimalt Harbor.

[4] Light bears from Brotchy Ledge buoy NNW. ¼ W. A fog bell rung by hand will answer vessels blowing their whistles.

[5] Visible from SE. ¼ S. round by SW. and N. to NE. by N. ¼ N.

[6] Coast light, and indicates the eastern entrance to Active Pass. Visible from W. ¼ S.

[7] Visible from NE. ¼ N. round by W. to SE. by E. ¼ E. Light should not be approached from north or west within 1½ miles.

[8] From the light No. 1 buoy bears S. 6° W. 8 cables; fog bell is attached to the tower.

[9] Light-house established 1884.

[10] Visible from the entrance to Burrard Inlet to an E. by N. bearing ¾ N. Should not be brought to bear to W. of N. by vessels in the straits, as this bearing will only lead clear of Sturgeon Bank off Fraser River. Fog horn to be established here.

[11] To indicate entrance to Departure Bay and Nanaimo Harbor, as well as for the general purpose of navigation. Visible all round the horizon.

PRINCE EDWARD ISLAND.

REPORT BY CONSUL GEORGE, OF CHARLOTTETOWN.

PILOTAGE.

The pilotage service of Canada is organized under statute of general application throughout the Dominion into pilotage districts of Quebec, Montreal, Halifax, and St. John, vesting pilotage authority for every district in commissioners thereof, whose powers and duties are defined, and whose by-laws, when confirmed by the governor in council, become binding as laws and their breach made an offense. (Rev. Stat., 1886, chap. 80, p. 1161 *et seq.*)

But where there are no pilotage commissioners there are no pilotage charges. The only pilotage districts in this province are those at the ports of Cascumpee, Crapaud, and Summerside, and of the latter I send rules and regulations.

The governor in council may extend the limits of certain districts, constitute pilotage authorities and make the payment of pilotage dues within these limits compulsory or not compulsory. (Sec. 13.)

Every ship which navigates within either of these pilotage districts shall, when pilotage dues are for the time compulsory, pay pilotage dues, unless either—(1) such ship is on her inward voyage, and no licensed pilot offers his services as a pilot, or (2) she is exempted under the provisions of the act from payment of such dues; and if such ship is on her outward voyage and the owner or master does not employ a pilot or give his ship into the charge of a pilot, such dues shall be paid to the pilotage authority of the district. (Sec. 58.)

The only ships exempted from pilotage dues are: Ships belonging to Her Majesty; those wholly employed in her service whose masters have been appointed by her government; ships propelled wholly or in part by steam employed in trading from port to port in the same province, or between any one or more of the provinces of Quebec, New Brunswick, Nova Scotia, or Prince Edward Island, or on voyages between any port in these provinces and the port of New York, or any port of the United States on the Atlantic, north of New York, except as to the ports of Halifax, Sydney, Miramichi, and Picton, where it may be determined which if any of the steamships so employed shall or shall not be wholly or partially exempt from the compulsory payment of pilotage dues; ships of not more than 80 tons registered tonnage; any ship whose master or any mate is licensed to pilot her within the limits within which she is then navigating; and on the river St. Lawrence all ships registered in Canada if not more than 250 tons registered tonnage are exempt. (Sec. 59.)

TONNAGE DUES.

Tonnage dues are regulated by proclamation of the governor in council under power vested in him by chapter 86, Revised Statutes. I transmit herewith his "Rules and Regulations for the Government of Ports in the Provinces of Nova Scotia, New Brunswick, Quebec, Ontario, British Columbia, and Prince Edward Island," respecting tonnage dues and harbor masters, and by section 13 the tonnage fees in the act set out shall not be payable for any ship more than twice in each calendar year, whatever is the number of ports at which she arrives or through which she passes.

List of lights on the coasts and rivers of British Columbia.

No.	Name of light and place.	Latitude, north.	Longitude, west.	Number of lights.	Character.	Color, etc.	Interval of revolution or flash.	Miles seen in clear weather.	Color and any peculiarity of light-house.	Height of light above high water.	Height of building from base to vane.	Years lighted.	Character of illuminating apparatus.
		° ′ ″	° ′ ″							*Feet.*	*Feet.*		
498	Cape Beale, southeast point of entrance to Barclay Sound on west coast of Vancouver Island.	48 47 48	125 12 52	1	Rev.	White[1].	30 seconds	19	White, square, stone, with dwelling attached.	164	35	1874	C.
499	Race Rocks, in Straits of De Fuca....	48 17 45	123 32 0	1	Fl.	....do[2]..	10 seconds	18	Alternate black and white horizontal bands; circular stone dwelling attached.	118	105	1861	D. 2
500	Fisgard, on a rock at western entrance to Esquimalt Harbor.	48 26 0	123 27 15	1	F	(3)	.....	12	White, circular brick; red brick dwelling attached.	67	56	1861	D. 4
501	Berens Island, western entrance to Victoria Harbor.	48 25 24	125 24 0	1	F	Blue[4]...	.....	7	White, square, wood dwelling attached; bell tower on seaward side.	44	30	1876	C.
501a	Discovery Island, on eastern extremity of island in the Strait of Haro.	48 25 20	123 13 50	1	F	White[5].	.....	15	White, square, wood, dwelling attached.	91	47	1886	D. 5
502	Plumper or Active Pass, on Georgia Point, Mayne Island, Straits of Georgia.	48 52 25	123 17 50	1	F	....do[6]..	.....	12	White, square, wood, with dwelling attached; belfry white, square, wood.	85	42	1885	D. 6
502a	Saturna Island, on eastern point.....	48 47 0	123 3 2	1	Rev.	....do[7]..	30 seconds	18	White, square, wood, with dwelling attached; iron lantern, red.	140	60	1886	C.
503	Fraser River, on southwest end of Sturgeon Bank north of Sand Heads.	49 5 0	123 16 0	1	F	....do[8]..	.....	12	White, hexagonal wooden tower on iron pile foundation.	52	49	1886[9]	D. 3
504	Point Atkinson, northwest entrance to English Bay and Burard Inlet.	49 19 42	123 15 54	1	Rev.	....do[10]..	One minute...	15	White, square, wood dwelling attached.	119	49	1875	C.
505	Entrance Island, Nanaimo, Straits of Georgia.	49 12 50	123 48 45	1	F	....do[11]..	.....	14	White, square, wood, with dwelling attached.	65	50	1876	C.

[1] Visible from east round by N. to W. by N. ¼ N. The light should not be brought to bear to the northward of E. ¼ N., as there is foul ground to the northward of the north limit of the light. Entrance to sound should not be attempted without local knowledge or a pilot.

[2] A 12-inch steam fog whistle sounds blasts of 5 seconds, with intervals of 1 minute and 12 seconds.

[3] Shows white in fairway between bearings N. ¼ W. and NW. by W. ¼ W., and clears all off-lying dangers. Shows red from NW. by W. ¼ W. to S. ¾ E. in Esquimalt Harbor, and to vessels bound for Victoria or Esquimalt from the eastward after rounding Trial Island it will indicate their distance from the shore. If bound to Esquimalt a W. SW. course will lead safe outside of Brotchy Ledge until the light changes from red to white, when it may be steered for; not before. A white ray of light is shown to the westward of S. ¾ E. into Esquimalt Harbor.

[4] Light bears from Brotchy Ledge buoy NNW. ¼ W. A fog bell rung by hand will answer vessels blowing their whistles.

[5] Visible from SE. ¾ S. round by SW. and N. to NE. by N. ¾ N.

[6] Coast light, and indicates the eastern entrance to Active Pass. Visible from W. ¼ S.

[7] Visible from NE. ¼ N. round by W. to SE. by E. ¾ E. Light should not be approached from north or west within 1½ miles.

[8] From the light No. 1 buoy bears S. 6° W. 8 cables; fog bell is attached to the tower.

[9] Light-house established 1884.

[10] Visible from the entrance to Burrard Inlet to an E. by N. bearing ¾ N. Should not be brought to bear to W. of N. by vessels in the straits, as this bearing will only lead clear of Sturgeon Bank off Fraser River. Fog horn to be established here.

[11] To indicate entrance to Departure Bay and Nanaimo Harbor, as well as for the general purpose of navigation. Visible all round the horizon.

PRINCE EDWARD ISLAND.

REPORT BY CONSUL GEORGE, OF CHARLOTTETOWN.

PILOTAGE.

The pilotage service of Canada is organized under statute of general application throughout the Dominion into pilotage districts of Quebec, Montreal, Halifax, and St. John, vesting pilotage authority for every district in commissioners thereof, whose powers and duties are defined, and whose by-laws, when confirmed by the governor in council, become binding as laws and their breach made an offense. (Rev. Stat., 1886, chap. 80, p. 1161 *et seq.*)

But where there are no pilotage commissioners there are no pilotage charges. The only pilotage districts in this province are those at the ports of Cascumpee, Crapaud, and Summerside, and of the latter I send rules and regulations.

The governor in council may extend the limits of certain districts, constitute pilotage authorities and make the payment of pilotage dues within these limits compulsory or not compulsory. (Sec. 13.)

Every ship which navigates within either of these pilotage districts shall, when pilotage dues are for the time compulsory, pay pilotage dues, unless either—(1) such ship is on her inward voyage, and no licensed pilot offers his services as a pilot, or (2) she is exempted under the provisions of the act from payment of such dues; and if such ship is on her outward voyage and the owner or master does not employ a pilot or give his ship into the charge of a pilot, such dues shall be paid to the pilotage authority of the district. (Sec. 58.)

The only ships exempted from pilotage dues are: Ships belonging to Her Majesty; those wholly employed in her service whose masters have been appointed by her government; ships propelled wholly or in part by steam employed in trading from port to port in the same province, or between any one or more of the provinces of Quebec, New Brunswick, Nova Scotia, or Prince Edward Island, or on voyages between any port in these provinces and the port of New York, or any port of the United States on the Atlantic, north of New York, except as to the ports of Halifax, Sydney, Miramichi, and Picton, where it may be determined which if any of the steamships so employed shall or shall not be wholly or partially exempt from the compulsory payment of pilotage dues; ships of not more than 80 tons registered tonnage; any ship whose master or any mate is licensed to pilot her within the limits within which she is then navigating; and on the river St. Lawrence all ships registered in Canada if not more than 250 tons registered tonnage are exempt. (Sec. 59.)

TONNAGE DUES.

Tonnage dues are regulated by proclamation of the governor in council under power vested in him by chapter 86, Revised Statutes. I transmit herewith his "Rules and Regulations for the Government of Ports in the Provinces of Nova Scotia, New Brunswick, Quebec, Ontario, British Columbia, and Prince Edward Island," respecting tonnage dues and harbor masters, and by section 13 the tonnage fees in the act set out shall not be payable for any ship more than twice in each calendar year, whatever is the number of ports at which she arrives or through which she passes.

LIGHT DUES AND LIGHTS.

No light dues are collected on any vessels. All light-houses, light-ships, floating and other lights, lanterns, and other signals, buoys, beacons, anchors, and landmarks, and all buildings and other works belonging thereto are constructed at the expense of Canada, under direction of the minister of marine and fisheries, by the authority of the governor in council. (Rev. Stat., chap. 70, p. 997.)

N. J. GEORGE,
Consul.

UNITED STATES CONSULATE,
Charlottetown, November 16, 1889.

NOVA SCOTIA.

YARMOUTH.

REPORT BY COMMERCIAL AGENT CURRIE.

PILOTAGE.

Pilotage is non-compulsory.

LIGHTS.

There are no light dues charged. Lights, ordinary, lighted by oil Yarmouth light visible 15 miles, 130 feet above sea level.

TONNAGE DUES.

Tonnage dues 2 cents per ton, called hospital dues, payable by all vessels excepting foreign fishing vessels, entitles entrance to hospital of sick seamen.

No discrimination in regard to flag.

QUARANTINE.

No fixed regulations; under control of municipal authorities, subject to local provincial government.

DEAN F. CURRIE,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Yarmouth, Nova Scotia, September 17, 1889.

NEWFOUNDLAND.

ST. JOHN'S.

REPORT OF CONSUL MOLLOY, OF ST. JOHN'S.

PILOTAGE.

Pilotage is compulsory in all cases.

Pilot charges are the same for home as for foreign vessels. No foreign flag enjoys special privileges in this regard.

Vessels in distress and foreign war vessels pay pilotage.

LIGHTS AND LIGHT DUES.

Light dues are the same in every port of the island whether there is a light or not. The dues are the same for foreign vessels as well as for those of the colony. They are payable only once during the year whether the vessel enters the port more than once or not. The amount is 24 cents per ton, and is collected at the custom-house on entry. For vessels under 40 tons, registered in the colony, the amount is $3.46 each, and fishing vessels and vessels plying coastwise pay 12 cents per ton. No vessel pays over $115.

LIGHTS.

In reply to this interrogatory I inclose herewith a list of the Newfoundland lights, with description of all lights, light-houses, fog signals, etc., giving particulars connected therewith, as well as those maintained by the Dominion Government on this island.

I herewith inclose list and particulars of tonnage dues.

QUARANTINE.

With regard to quarantine I beg to say that all vessels arriving from infected ports are visited by the doctor, and if found to be infected the crew are sent to the lazaret, and the vessel is fumigated. Doctor's fees are $2.50 for each visit. I also beg to inclose rates of towage in and out of St. John's. Towage is not compulsory; it is payable after service is rendered.

THOS. N. MOLLOY,
Consul.

UNITED STATES CONSULATE,
St. John's, October 28, 1889.

PILOT RATES AT ST. JOHN'S.

[Inclosure 1 in Consul Molloy's report.]

As the number of pilots is now reduced to eleven, the act provides that the following rates be exacted for pilotage of vessels in and out of this port:

Register measurement.	Rate.	Register measurement.	Rate.
On vessels—		On vessels—	
Under 80 tons	$5.35	From 350 to 400 tons	$16.00
From 80 to 100 tons	6.70	From 400 to 500 tons	18.70
From 100 to 120 tons	7.25	From 500 to 600 tons	21.35
From 120 to 160 tons	8.00	From 600 to 700 tons	24.00
From 160 to 200 tons	8.70	From 700 to 800 tons	26.70
From 200 to 240 tons	9.35	Over that size for every 100 tons additional	1.35
From 240 to 280 tons	10.00	And on no vessel is the pilotage to exceed	32.00
From 280 to 300 tons	10.70		
From 300 to 350 tons	13.35		

Steamers of less than 150 horse-power shall pay pilotage on their net tonnage, as in the case of sailing vessels.

Steamers above the said power shall pay at the rate of 7 cents for each horse-power without reference to tonnage.

Steamers employed in the fisheries of the colony shall be exempt, except on foreign voyages, and then at the rate of 7 cents for each horse-power.

Coastal vessels shall also be exempt.

Subsidized mail steamers in connection with the colony shall pay on the horse-power at the rate of 7 cents for each horse-power.

No steamer shall pay more than $32 at one time.

All coasting vessels which may take pilots, to pay one-half of the above rates of pilotage in proportion to their tonnage. The above scale of pilotage shall be payable on the register tonnage of all such vessels as ascertained before going out of harbor.

Her Majesty's vessels under sixth rate	$10.00
Her Majesty's vessels of the fourth, fifth, and sixth rate	22.00
Her Majesty's vessels of the first, second, and third rate	30.00

List of lights upon Newfoundland territory maintained by the Government.

[Inclosure 2 in Consul Molloy's report.]

Name of place.	Latitude (north).	Longitude (west).	Date of lighting.	Description of light.	Height above sea level.	Distance visible in nautical miles.	Illuminated arc.	Kind of lamp.	Description of building.
	° ′ ″	° ′ ″			*Feet.*	*Miles.*			
Gull Island (Cape John) ...	49 59 54	55 21 33	1884	Intermittent white, fourth order, dioptric, making one complete revolution in 1 minute, appearing about 11 seconds light and 9 seconds dark.	525	26	360 degrees .	2-wick concentric.	Iron tower on apex of island, painted red and white vertically, 4 stripes of each color; keeper's house painted white, 112 feet distant, W. by N.
Long Point (Toulinguet)...	49 41 23	54 47 34	1876	Revolving white, catoptric; attains greatest brilliancy every 30 seconds.	331	21	All seaward.	No. 8 argands..	Light tower painted red, square on lower part, changing to octagon, and finished by a circular drum gallery and lantern; keeper's house square (vertical parts white, roof red), distant 25 feet from tower.
Wharf light (Toulinguet)..	.....	.....	1885	Fixed red light on the end of public wharf.	331	.....	.....	....do	
Canso Island (Seldom-Come-By).	49 25 05	54 10 35	1874	Fixed white, eighth order, dioptric.	85	10½	270 degrees .	1 argand.....	Buildings wood, light tower, rising from gable of house, vertical parts painted white, roof red.
Offer Wadham Island	49 35 35	53 45 12	1858	Fixed white, fourth order, dioptric.	100	11½	360 degrees .	2-wick concentric.	Round red brick tower; keeper's dwelling, wood (vertical parts white, roof red), 30 feet from tower.
Cabot (Stinking) Island Bonavista Bay.	49 10 26	53 21 21	1880	Intermittent white, fourth order, dioptric, making one complete revolution in a minute, appearing about 11 seconds light 9 seconds dark.	74	10	....do	....do	Iron light tower, in center of square wooden building; roofs flat; sides banded horizontally; red and white alternately.
Puffin Island (Green's Pond).	49 03 37	53 33 27	1873	Fixed red, fourth order, dioptric, visible from N. by E. through S. to W. by N. mag.	85	10½	270 degrees	....do	Buildings granite, roofed with slate; light tower at one corner.
Denier Island	48 41 05	53 34 05	1888	Revolving white, six sides, to give single flashes at intervals of 30 seconds.	298	19	360 degrees .	1½ argand.....	Iron light tower and a keeper's dwelling (wood), 17 feet 6 inches apart. House and tower painted red and white alternately in vertical stripes.
Cape Bonavista	48 42 01	53 04 35	1843	Revolving catoptric, alternate white and red, at intervals of 90 seconds.	150	15	All seaward.	16 argands.....	Square wooden light-house, painted red and white in alternate vertical stripes; lantern in center of roof.
Green Island (Catalina)....	48 30 15	53 02 20	1857	Fixed white, fourth order, dioptric, visible WSW. to NE.	92	11	202½ degrees.	2-wick concentric.	Wooden house, painted white, from center of which rises the lantern.

List of lights upon Newfoundland territory maintained by the Government—Continued.

Name of place.	Latitude (north).	Longitude (west).	Date of lighting.	Description of light.	Height above sea level.	Distance visible in nautical miles.	Illuminated arc.	Kind of lamp.	Description of building.
	° ′ ″	° ′ ″			*Feet.*	*Miles.*			
Fort Point (Trinity)	48 21 55	53 20 51	1874	Fixed white, eighth order, dioptric.	75	10	320 degrees	1 argand	Wooden tower, painted white.
Hart's Harbor (Trinity Bay).	48 01 07	53 15 07	1881	Fixed white, eighth order, dioptric.	65	9	All seaward	do	Octagonal tower, painted white, small store at rear.
Baccalew Island	48 08 58	52 47 32	1859	Catoptric revolving white light, showing a flash every 20 seconds. The light is often obscured by fog when the lower part of the island is clear.	443	24	360 degrees	No. 3 argands	Round red brick tower; keeper's dwelling, detached square white building with red roof. Buildings situated on northern point of the island. The southern end of the island obscures the light for 8 miles when bearing NNE. ½.
Carbonear Island	47 44 24	53 09 22	1878	Fixed white, eighth order, dioptric.	195	16	do	1 argand	Buildings wood; light tower rising from the gable of the house; vertical parts white, roof red.
Harbor Grace Island	47 42 45	53 08 11	1836	Catoptric revolving, showing two white flashes followed by one red flash, each attaining greatest brilliancy in 30 seconds.	151	15	do	No. 6 argands	Square wooden house (sides painted white, roof red), from center of which rises the lantern.
Harbor Grace, harbor light.	47 41 27	53 12 33	1850	Fixed white, sixth order, dioptric.	40	7½		Argand gas	Hexagonal wood tower, painted white.
Green Point (Bay Roberts).	47 36 40	53 10 15	1883	Fixed white, sixth order, dioptric. Immediately beneath the principal white light is a projecting lantern in which three lamps are placed, the two outer ones will show white and the center one, in a line with the southern rocks NE. ½ E. (mag.) from the tower, will show red.	56	8½	All seaward	1 argand	Round iron tower, painted with two red and three white horisontal bands. Store in the rear painted white.
Brigus (North Head)	47 33 54	53 19 35	1885	Fixed red, sixth order, dioptric	113	12		1 argand	Round iron tower, painted red and white, vertical stripes (3 of each). House also painted red and white, vertical stripes.
Cape St. Francis	47 48 30	52 57 10	1887	Fixed red, fourth order, dioptric	123	12		2-wick concentric.	Buildings of wood, painted white, roof flat. On the higher roof is the lantern elevated above it on a square block. The lower building is the fog-alarm house.

Fort Amherst (entrance to St. John's).	47 33 47	52 50 20	1813	Fixed white, fourth order, dioptric.	184½	12	Seawards between WSW. and NNE.	....do	Stone, whitewashed; lantern on roof.
St. John's:									
One leading light.....	.....	.....	.....	Catoptric, red	76½	.....	.....	Argand gas....	Light in a drum (painted white) on roof of custom-house.
Two leading lights.....	.....	.....	.....	Catoptric, red. By keeping the light or discs in line, bearing NW.¾ W., will clear all dangers.	174½	.....	.....	....do	This light is 400 yards in rear of the lower one. It is in a small octagonal tower, painted white, with conical roof, one side of which is painted white, as is also a disc that surmounts the roof. The line connecting this and the above signal shows middle of the channel.
Cape Spear.....	47 31 11	52 36 39	1835	Catoptric revolving white, greatest brilliancy every minute.	264	23	All seaward.	No. 7 argands..	Wooden house, banded red and white horizontally; the lantern rises from the center.
Ferryland Head.....	47 00 58	52 51 07	1871	Fixed white, third order, dioptric.	200	16	....do.....	2-wick concentric.	Round red brick tower, 28 feet from keeper's house, which is wood, painted white, with red roof.
Cape Pine.....	46 37 04	53 31 45	1851	Fixed white, catoptric. The intervening land being low the light can be seen over it from St. Mary's Bay.	314	30	.....	No. 17 argands..	Round iron light tower, 50 feet high, painted with red and white horizontal bands. Keeper's dwelling wooden, connected with the tower by a covered way.
Point La Haye (St. Mary's Bay).	46 54 28	53 36 40	1883	Fixed white, sixth order, dioptric.	63	9	All seaward.	1 argand.....	Round iron tower, painted with three red and two white horizontal bands. The bands are continued around a flat-roof; store in rear.
Cape St. Mary's.....	46 49 34	54 11 43	1860	Revolving cato-dioptric of first order, showing alternately a red and a white light at intervals of 1 minute.	390	23	....do.....	No. 13 argands..	Round brick tower, painted red. A wooden house on each side of the tower and connected therewith by a covered way. These houses are painted white with red roofs.
Point Verde (Placentia)....	47 14 11	55 00 19	1879	Fixed white, fifth order, dioptric..	98	11	....do.....	1 argand.....	Wooden house, painted white, flat roof. Light tower rises from roof of house.
Dodding Head (Burin).....	47 00 26	55 08 43	1858	Second order, revolving white light (silvered reflectors and annular lenses); attains greatest brilliancy every minute. Owing to great height this light is often obscured when the coast is clear.	430	24	....do.....	No. 6 argands...	Square wooden house, roof red. The lantern rises from the center of the house.
Alban Island (Lamalino)...	*46 51 00	55 45 30	1879	Fixed white, eighth order, dioptric.	64	9	170 degrees.	1 argand.....	Wooden octagonal tower, painted red and white on alternate sides.
Burnette Island (Fortune Bay).	47 15 32	55 51 50	1865	Cato-dioptric, flashing white light; attains greatest brilliancy every 10 seconds; obscured by the land from ESE to S.	408	23	All seaward.	No. 9 argands...	Square wooden house, painted white, with red roof. The lantern rises from the center of the roof.

*Approximate.

List of lights upon Newfoundland territory maintained by the Government—Continued.

Name of place.	Latitude (north).	Longitude (west).	Date of lighting.	Description of light.	Height above sea level.	Distance visible in nautical miles.	Illuminated arc.	Kind of lamp.	Description of building.
	° ′ ″	° ′ ″			*Feet.*	*Miles.*			
Garnish (Fortune Bay).....	47 14 00	55 24 00	1875	Fixed red light, metal reflector....	20	.....	.....	1 argand.....	Square beacon tower of wood, standing at end of breakwater, carrying an octagonal drum and lantern.
Belleoram (Fortune Bay)...	47 29 00	55 27 15	1873	Fixed white, eighth order, dioptric.	35	7	270 degrees .	...do	Wooden tower painted white, on north point of the beach.
Rocky Point (Hr. Briton) ..	47 27 30	55 47 45	1873	Fixed white, eighth order, dioptric. Not visible in a line with Harbor Rock, in which direction it is obscured.	68	9	.....	...do	Circular iron tower painted red and white in horizontal bands.
Pass Island (entrance to Hermitage Bay).	47 29 15	56 12 02	1879	Fixed white, fourth order, dioptric.	281	19	360 degrees.	2-wick concentric	Wooden house, sides painted white, with flat roof on which the lantern stands.
				A fixed red light, sixth order, dioptric, is placed below the white light to distinguish the rocks and reefs extending from Wolf Rocks, bearing (from lighthouse) S. 77° 44′ W. to Basse Terre Point, S. 61° 33′. The reef over the Wolf Rocks is about 1½ miles from the island. At a distance of about 4 miles the 2 lights merge into 1.	267	.....	136.20 degrees	1 argand.....	The red light is 14 feet lower and at the angle of the building.
Gaultois	47 36 00	55 54 00	1885	Fixed white light on an iron column. The light should be brought to bear NE. before steering for the entrance of the harbor, to clear a sunken rock SW. by W. about 100 yards distant.	14	.....	All seaward	Duplex lamp ..	
Bear Island (Burgeo)	47 36 12	57 35 13	1874	Fixed red, sixth order, dioptric ...	207	11	270 degrees.	1 argand.....	Buildings wood; light tower rising from the gable of the house; vertical parts painted white, roof red.
Ireland Island, La Poile Bay	47 37 52	58 22 13	1886	Fifth order revolving white light, alternate flashes and total eclipses, attaining greatest brilliancy every 12 seconds.	67	9½	Whole horizon.	Duplex lamp...	Circular iron tower; keeper's dwelling of wood, 16 feet apart (WS.W.), painted red and white, alternate bands continuous around both buildings.

Rose Blanche Point.....	47 35 48	58 41 30	1873	Fixed white, fourth order, dioptric, showing from a bearing of W. by N. through N. to W.	95	11	168½ degrees.	2-wick concentric.	Buildings granite, roofed with slate; light tower at one corner.
Channel Head (Port au Basque).	47 33 49	59 07 00	1875	Fixed red, sixth order, dioptric ...	90	12	All seaward	1 argand.....	The square light tower and the keeper's dwelling are detached; they are of wood.
Sandy Point (St. George's Bay.)	48 27 27	58 30 31	1883	Fixed white, sixth order, dioptric.	35	7	...do	...do	Round iron tower, painted with red and white horizontal bands (3 of each). Store on the south side, painted white.

List of lights upon Newfoundland territory maintained by the Canadian Government.

Cape Ray	47 37 00	59 18 00	1871	Revolving white, attaining greatest brilliancy every 20 seconds; catoptric.	130	17	All points seaward.	Mammoth flat wick burner, constant level oil reservoir.	Wooden octagonal tower painted white; lantern brown.
Point Rich.....	50 41 50	57 27 40	1871	White flash every 15 seconds; catoptric.	110	16	....do	No. 1 circular lamp.	White hexagonal wood, with roof red.
Cape Norman	51 38 00	55 53 40	1871	Catoptric, revolving white, greatest brilliancy every 2 minutes.	138	17	....do	....do	Do.
Cape Bauld	51 38 50	55 25 00	1884	Catoptric, alternating red and white every 45 seconds.	141	18	....do	Mammoth flat wick burner, etc.	White square wooden tower, surmounted by a red lantern; dwelling attached.
Belle Isle	51 53 00	55 22 15	1858	First order, dioptric, fixed white light.	470	28	From NW. by N. round by S. to E.	Five mammoth wick lamps in a cluster.	Circular stone tower covered with clapboards, painted white.
Belle Isle (low light)	(*)	.....	1880	Catoptric, fixed white light.....	138	17	In approaching from the Gulf.	Large circular burner lamps constant level oil.	White square wooden tower.
Point Amour (Forteau)	51 27 35	56 50 55	1855	Second order, dioptric, fixed white	155	19	All points seaward.	Five mammoth wick lamps in a cluster.	Circular white stone covered with clapboards; roof red.
Greenly Island (Blanc Sablon).	51 22 35	57 10 50	1878	Catoptric light, showing white one-half minute, red one-half minute, white one-half minute, and eclipse 1½ minutes.	100	15	....de	Large circular burner lamps.	Octagonal wooden tower painted white, with red lantern; white wooden dwelling attached.
Cape Race	46 39 24	53 04 20	1856	Revolving white light, attains greatest brilliancy every half minute. Visible between ENE. to WSW.	180	15	180 degrees.	No. 9 argands.	Round iron light tower, 40 feet high, painted red and white in broad vertical stripes. Keeper's, — feet distant, is square, painted white with red roof. The light tower is connected with the alarm house by a covered way, 250 feet long.

* Below main light.

Newfoundland fog signals, sounded day and night during thick weather and snow-storms.

Date of erection.	Name of place.	Description of signal.	Interval of sound and remarks.
1883	Green Island (Catalina.	Champion fog horn...	Sounded 5 seconds, with intervals of silence of 37 seconds.
1877	Cape St. Francis.....	Siren trumpet	Sounded 5 seconds, silent 5 seconds; sounded 5 seconds and silent 45 seconds in each minute.
1877	Fort Amherst	3-pound charge from 32-pounder gun.	During daylight and when Cape Spear is enveloped in fog this will be discharged every hour. A vessel's gun will be answered by 2 guns.
	....do	Mechanical fog horn..	Sounded in reply to vessel's gun or whistle.
1878	Cape Spear.....	Compressed-air trumpet.	Sounded for 7 seconds in each minute. House 600 yards NNE. of light-house. This alarm is seldom heard to the southward of its position.
1882	Powel's Head (near Trepassey).	Courtenay automatic whistling buoy.	Bearing from buoy: Powel's Head, NE., distant 1¼ miles; Cape Pine, W. ¼ S.; Freshwater Point SE. ¼ E. The buoy will be taken in at the commencement of winter, and removed in the spring as early as the weather will permit.

Canadian fog signals on the Newfoundland coast.

1872	Cape Race.....	10-inch steam whistle.	Sounded for 10 seconds, with invervals of silence of 50 seconds in each minute.
1871	Cape Ray.....	Steam fog horn	Blast of 10 seconds every minute.
1884	Cape Bauld, Belle-isle.	Steam fog horn	Blast of 10 seconds every minute.
		Fog gun	Fired every half hour. Depot of provisions for shipwrecked mariners.
1875	Point Amour, Greenly Island.	Steam fog whistle	Sounds 10 seconds every minute.
		Fog gun	Fired every half hour.

HARBOR DUES.

[Inclosure 3.—Consul Molloy's report.]

With the exception of ships of war, coasters, and Newfoundland fishing craft, all vessels entering the port of St. John's pay to the customs department harbor dues at the following rates, viz:

Under 60 tons	Free.
60 tons upwards and not more than 100 tons	$2.00
100 tons upwards	3.00
200 tons upwards	4.00
300 tons upwards	5.00
More than 400 tons	6.00

Payable once every half year between the 1st of January and the 30th of June, and between the 1st of July and the 31st of December.

TOWAGE RATES.

[Inclosure 4 in Consul Molloy's report.]

Rates of towage by tugboats Hercules, Favorite, Daisy, W. I. Mason, and D. J. Ingraham from 1 mile outside of heads to consignee's wharf, or vice versa.

Vessels under 60 tons	$4.00	Vessels from—	
Vessels from—		351 to 400 tons	$26.00
60 to 100 tons	8.00	401 to 450 tons	28.00
101 to 125 tons	10.00	451 to 500 tons	30.00
126 to 150 tons	12.00	501 to 550 tons	32.00
151 to 175 tons	14.00	551 to 600 tons	34.00
176 to 200 tons	16.00	601 to 700 tons	36.00
201 to 225 tons	18.00	701 to 800 tons	42.00
226 to 250 tons	20.00	801 to 900 tons	46.00
251 to 300 tons	22.00	901 to 1,000 tons	50.00
301 to 350 tons	24.00		

Towage beyond 1 mile limit to Cape Spear, one-third additional. Ten per cent. charged for use of steamer's hawser. One-third additional charged from December 10 to April 10. Vessels in distress or disabled must make special arrangements. Vessels employing tug inwards will be charged two-thirds of rates going out. Owners not responsible for any damage done by the vessel towed, to themselves or others. Special charges will be made for steamer *Hercules* when ice on the coast.

MEXICO.

GUAYMAS.

REPORT BY CONSUL WILLARD.

PORT CHARGES.

The Mexican laws regulating port charges are general throughout the Republic, and the same dues are collected at all ports of entry of the country.

PILOTAGE.

All foreign merchant vessels pay pilotage, without distinction of flag, whether they use a pilot or not in entering and departing from a port.

Mexican or national vessels pay pilotage when a pilot is asked for and received on board the vessel.

The pilotage dues are $1.75 per foot draft on entering and the same on departing from port.

Foreign vessels arriving in distress pay pilotage.

Vessels of war do not pay pilotage, excepting when they ask for and receive a pilot.

Pilotage dues are collected by the captain of port.

LIGHT DUES.

All vessels pay light-house dues, without distinction of nationality, both national and foreign, when they bring cargo from a foreign port to a Mexican port where a light-house is established. Where no light-house is established no dues are charged.

Steam vessels pay $100 on entering and $100 on departing from port when bringing cargo from foreign ports, and sailing vessels pay $25 on entering and $25 on departing. Should a steam or sail vessel arrive at several ports during the voyage, they pay light-house dues only once at the first port of arrival.

If a vessel (steam or sail) arrive in ballast and depart in ballast no dues are exacted, but should a vessel enter port in ballast and take cargo for a foreign port, light-house dues are charged on the departure, not on her arrival.

The collector of customs of the port collects the light-house dues from the vessels.

LIGHTS.

The light-house of the port of Guaymas is located at Cape Haro, on an elevated point at the southern extremity of the eastern part of the cape (latitude 27° 50′ 41″, longitude 110° 54′ 14″, Greenwich).

The tower is constructed of iron, and is 16 feet from base (of tower) to center of lantern; it has a dioptric revolving light of the fourth order, giving every 30 seconds a flash. The light-house is 340 feet above sea level and can be seen 24½ miles at sea.

TONNAGE DUES.

Mexican or national vessels are exempt from tonnage dues. Tonnage dues are charged on all foreign sailing vessels at the rate of $1.50 per ton measurement (Mexican measurement), without distinction of flag. All steam vessels, without distinction of nationality, are exempt from tonnage dues.

If a foreign sailing vessel enters and departs in ballast no tonnage dues are exacted.

If a foreign sailing vessel has cargo for several ports, tonnage dues are collected only once at the first port of arrival.

Should a foreign vessel enter port in ballast and takes cargo (not having paid tonnage dues at a previous port on that voyage) she pays tonnage dues on her departure.

Tonnage dues are collected by the collector of customs of the port.

QUARANTINE.

Quarantine laws are established by the general Government at Mexico, and are the same for all vessels, foreign and national.

Vessels arriving with foul bills of health, from ports affected with yellow fever, smallpox, cholera, or other contagious and infectious diseases, are quarantined, the duration or time depending on days of navigation from the infected port and of cases of sickness on board.

The expenses of fumigation, etc., are paid by the board of health of the port.

A. WILLARD,
Consul.

UNITED STATES CONSULATE,
Guaymas, August 2, 1889.

MAZATLAN.

REPORT BY CONSUL KELTON.

PILOTAGE.

Pilotage is compulsory in this port for all merchant vessels, both national and foreign, coming from a foreign port, both upon entering and clearing.

The charges are the same for national and foreign vessels, viz, $1.75 each foot of draft, and $3 for the boat of the pilot. In case of bad weather $1 is charged for each extra oar employed.

No foreign flag enjoys special privileges in this respect.

Vessels in distress and foreign or national war vessels pay pilotage only when the services are asked of the pilot.

The steamers of the Pacific Mail Steamship Company and of the Mexican Company of the Gulf of Cortes are exempt from paying pilot-

age by reason of their mail contracts with the Mexican Government which contain a clause exempting the steamers of these companies from all port charges.

Merchant vessels in the coast trade pay the pilot $4 on entering or clearing from any port, but only in case they ask for a pilot. Foreign vessels, both steam and sail, engaged in the coast trade pay pilotage unless exempt by contract with the Mexican Government.

LIGHT DUES.

All steam vessels, both national and foreign, arriving from a foreign port laden with merchandise, pay light dues of $100 on entering and again on clearing from ports in Mexico having a light.

Sail vessels, both national and foreign, under the same conditions as above, pay $25 on entering and again on clearing.

Vessels arriving in ballast direct from a foreign port to load products of the country pay light dues only on clearing, viz, steam vessels $100 and sail vessels $25.

Vessels bound to more than one port in Mexico pay light dues only once, and they are payable in the first portat which the vessel touches in which there is a light.

The light at Mazatlan is a fixed light, of the third class, situated on Creston Island at the north entrance to the harbor. It has an elevation of 515 feet, due to the height of the island, and can be seen at a distance of 30 miles.

No light dues are collected from national vessels engaged in the coast trade.

Light dues are payable to the collector of customs by the master of the vessel or his agent, and a clearance is not given until all port charges have been satisfied or paid.

There is no discrimination in the port charges collected of vessels in favor of or against the vessels of the United States as regards the foreign trade. As regards the coasting trade, no foreign vessel is permitted to engage in the coasting trade if there is a national vessel bound to the same port. It is evident that the intent of the law is to protect national vessels, but at the same time, to facilitate commerce between Mexican ports, allowing foreign vessels to receive coast freight when there is no national vessel bound to the same port as the foreign vessel. But in the actual working of the law the commerce of this coast has suffered through the practice of national vessels opening register for the same ports immediately upon the arrival of a foreign vessel bound for other Mexican ports, thus preventing the merchants from shipping goods on a foreign steamer to adjacent ports. After the departure of the foreign steamer the national vessel retires the register it had opened, having had no intention of going to those ports.

The steamers of the Pacific Mail Steamship Company and those of the Mexican Company of the Gulf of Cortes are exempt from light dues by a clause in their contracts with the Mexican Government for carrying mails.

TONNAGE DUES.

All foreign sailing vessels arriving at a port in Mexico from a foreign port with merchandise (except coal) pay once, in the first port at which they touch, a tonnage due of $1 for each ton of measurement. The number of tons is determined by measurement by the port officers in conformity with the regulations established by the navy department.

Foreign vessels laden with coal are exempt from tonnage dues for the space occupied by the coal they bring.

Receipt is given for the dues paid at the first port of entry, which must be exhibited at the other ports during the same voyage or the tonnage dues may be collected again.

National vessels do not pay tonnage dues in the coast trade nor in the foreign trade.

The steamers of the two lines already mentioned do not pay tonnage dues, being exempt under their contracts.

Vessels are exempt also which arrive in ballast to engage in the fisheries on the Mexican coast, or to load products of the country for a foreign port.

All steam vessels are exempt from tonnage dues, and also war vessels and all national vessels.

Foreign sailing vessels are also exempt when the cargo they bring to a Mexican port consists solely of coal.

In reply to the question if the vessels of any nationality enjoy special privileges I can state that there is no discrimination in favor of or against any nationality as regards port charges, while there is a very considerable discrimination in favor of Mexican vessels arriving from a foreign port; since the duties collected on the goods landed by a Mexican vessel are 2 per cent. less than they would be if landed from a foreign vessel.

The law of December 12, 1883, decrees a reduction of 2 per cent. of the duties appraised on goods brought from a foreign port in a Mexican vessel.

When the high tariff of Mexico is taken into consideration it will be seen that this concession in favor of Mexican vessels is of great importance, making the cost of goods brought in a Mexican vessel considerably less than if brought in an American vessel.

QUARANTINE.

The board of health is composed of five members, who receive no salary. The permanent members are the captain of the port, the civil judge, and syndic of the city; the other two members are appointed by the city council, who generally select a lawyer and a physician. The board appoints a physician as health officer, who receives a salary, and whose duty it is to visit every vessel immediately upon its arrival at the port and determine if the vessel may be admitted for entry or be subject to quarantine.

The boards of health at the ports in Mexico are subject to the jurisdiction of the General Government, though they are empowered to establish rules governing quarantine at their ports subject to approval by the General Government.

The board of health at this port has had under discussion for several years the formation of a system of rules for quarantine without yet accomplishing it; in the mean time the rules approved by the General Government for Vera Cruz and for Acapulco have been followed, and in special cases consulting the General Government by telegraph.

No fee is exacted for the visit of the health officer.

The fees for extending a bill of health are:

All vessels, national and foreign, bound to a foreign port	$4.00
National vessels bound to a port in this State	1.00
National vessels bound to a port in another State	2.00
Foreign vessel bound to a port in Mexico:	
Steam and large sail vessels	4.00
Schooners and small vessels	2.00

Under the provisions of the circular of the secretary of state dated the 16th of July, 1885, quarantine is divided into two classes, viz, strict quarantine and quarantine of observation.

The diseases quarantined are cholera and yellow fever. In the case of the appearance of other diseases which are considered contagious or dangerous to the public health special instructions are asked of the secretary of state at the capital.

As regards smallpox, a circular of the department of state issued the 26th of August, 1887, establishes the rule that a vessel arriving from an infected port shall not be subjected to quarantine if during the voyage no cases of smallpox have occurred on the vessel.

A strict quarantine obliges the vessel to discharge all cargo and fumigate the vessel; the duration of the detention is determined by the board of health.

A quarantine of observation consists of a detention of 7 days without discharging cargo or the fumigation of the vessel.

All expenses of discharging cargo and the fumigation of ship, cargo, and passengers, as well as the expense of detention, must be borne by the vessel.

It is therefore evident that the quarantine rules are established by the General Government, and that the boards of health depend upon the department of state for instructions for special cases.

EDWARD G. KELTON,
Consul.

UNITED STATES CONSULATE,
Mazatlan, August 17, 1889.

VERA CRUZ.

REPORT OF CONSUL HOFF.

PILOTAGE.

Pilotage is not compulsory upon Mexican vessels, but if pilot service is rendered it is only $4, whilst foreign bottoms are charged $1.75 per foot of draft, and $6.50 for pilot boat and port warden's fees. Vessels in distress and foreign men-of-war pay pilotage if called upon, but not port warden's fees.

LIGHT DUES.

Light dues on all sailing vessels are $50 when they come in and go out loaded; but coming in in ballast, only $25 outward. All foreign steamers pay $200 light dues; dues are not payable where there is no light.

Mexican vessels from foreign ports pay the same light dues as foreign in an out, unless they go coastwise, then only inward.

Lights at Vera Cruz are good and can be seen 15 miles.

Charges are the same on all foreign as they are on American vessels. The charges are collected at the time the vessel clears at the custom-house.

TONNAGE DUES.

Tonnage dues are collected only when from foreign ports and with general cargo. Vessels from any port loaded with coals are free as far as the tonnage of coals go. Dues once paid, free the vessel as long as she remains in Mexican waters.

There is no discrimination in regard to flag.

There are no special privileges unless for carrying the mail.

The tonnage dues are for sailing vessels $1.50 per ton, except in ballast or with a load of coals. Steamers pay no tonnage dues, only light dues.

The water dues of this port are 15⅝ cents per ton, whether they take water or not.

QUARANTINE.

The rules of quarantine are established by the state and municipal government, but subject to the General Government. The diseases that are quarantined are cholera and smallpox only, and the duration 15 days after the last case occurs on board.

The expenses are borne by the ship.

JOSEPH D. HOFF,
Consul.

UNITED STATES CONSULATE,
Vera Cruz, November 7, 1889.

CENTRAL AMERICA.

COSTA RICA.

REPORT BY CONSUL WINGFIELD, OF COSTA RICA.

PILOTAGE.

Pilotage is not compulsory for vessels of the country, nor for foreign vessels.

Pilot charges are the same for vessels of the country as for foreign vessels.

No foreign flag enjoys special privileges in this regard.

Vessels in distress pay only cost of aid given.

Foreign war vessels pay pilotage.

LIGHTS.

There is a light-house in each port (Punt Arenas and Limon), each 42 feet high and visible 8½ miles.

LIGHT DUES.

Light dues on steam and sail, laden or in ballast, are payable at only one port in the same country during same voyage.

These dues are payable whether there is or is not a light.

As to American vessels the rates charged are 12½ cents per ton per round voyage.

There is no discrimination in favor of or against vessels of the United States.

This country charges its own shipping engaged in the foreign or coasting trade light-house dues the same as are charged foreign vessels.

Light dues are collected through the collector of the port and direct from shipmaster.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels, whether on the foreign or coasting trade, laden or in ballast

There is no discrimination in regard to flag.

Vessels of no nationality enjoy special privileges.

QUARANTINE.

Duration of quarantine for each disease from 6 to 15 days, unless the sickness does not disappear in that time.

The vessels concerned bear the expenses of detention and fumigation as to passengers and cargo.

Quarantine rules are established by the general government.

QUARANTINE RULES.

1. As soon as any vessel lays to in front of the port it shall be visited by the health officer.

2. Every ship, whether of the Republic, foreign, merchant vessel or man-of-war, must await the visit of the health officer, displaying its national flag and lying to until permission is granted to enter the port.

3. The vessel lying to as above provided, the health boat shall approach on the windward side and without going on board the health officer shall demand of the captain his bill of health. He shall also ascertain if there are any persons sick on board, the nature of the sickness, if any, any deaths that may have occurred on the voyage, whence the vessel comes, number of days of passage, places where the vessel has called, what ships she has spoken on the high seas, and the state of her water and provisions.

4. The bill of health, which states that there is no contagious or suspicious disease prevailing at the port from which the vessel proceeds at the time she sailed shall be considered as a "clean bill." If it does so state it shall be considered as not a "clean bill." Every bill of health which does not state in terms "clean" shall be considered as "not clean." It shall also be treated as "not clean" whenever any case of sickness has occurred during the voyage of such a character as to make it "not clean" or when the vessel comes from some port with the bill not visaed by the consul of Costa Rica there resident, or, if no such consul, by some consul of Mexico, Central America, or South America.

5. Every vessel which leaves the ports of the Republic shall carry a bill of health, except the coast-guard boats and fishing boats.

6. Although a vessel carries a clean bill of health, if through official information or through publication in the newspapers of the port of procedence or of the place where she called it appears that any contagious sickness was developed before she sailed, the vessel shall be held in quarantine for observation for 5 days, or for a longer time, if there be on board objects susceptible of conveying contagion, such as hides, feathers, wool, silk, cotton, rags, etc.

All such effects shall be disembarked at the quarantine station, and ventilated for such time as the health officer shall direct.

7. If the bill of health is considered as not clean neither passengers nor any one on board the vessel shall be allowed to land. Men-of-war and mail vessels shall not be required to go into quarantine, but they shall not enter the port, nor shall the passengers on them be allowed to disembark.

8. When the bill of health is considered not clean because of yellow fever, smallpox, or Asiatic cholera, the vessel shall remain in quarantine 15 days, and all articles, such as rags, hides, wool, silk, cotton, or other contagion-bearing articles, removed therefrom.

9. All vessels coming from ports adjoining those infested with Asiatic cholera, smallpox, or yellow fever, when such adjoining countries are notoriously exposed to contagion, shall remain in quarantine for observation 3 to 4 days, provided that if the vessel has undergone such quarantine at a port at which it called it shall be credited with such time, it producing due evidence of the same.

10. Twenty-four hours shall constitute a day in quarantine, and if upon a vessel in quarantine any case occurred giving ground of suspicion of contagion the period of quarantine shall begin to run from the day on which all well-grounded apprehension shall cease.

11. Vessels coming from ports which have suffered from smallpox, yellow fever, or Asiatic cholera, and which left such ports within 30 days in the case of smallpox, and within 20 days in case of yellow fever and Asiatic cholera, shall be held in quarantine from 6 to 9 days.

12. Although a vessel carry a clean bill of health and has not called at any infected port, it shall be in quarantine from 3 to 5 days if it does not show a good hygienic condition, and the clothes and other effects of passengers, officers, and crew and other contagion-bearing articles shall be exposed to ventilation on the shore. But vegetables or animals putrescent shall be thrown into the sea or burnt; other effects, and those of cotton, linen, and flax, shall be ventilated on the vessel by opening the hatchways and by placing in them tarred sails of ventilation, provided no case of contagious disease has occurred during the voyage. If there has been any such case the whole cargo must be disembarked and properly purified.

13. In every case of quarantine, circulation of articles from the cargo is forbidden until permission is granted for free exchange; provided that metals and mineral objects can circulate freely after a quarantine of 48 hours and exposure to the sun on deck. If it is decided that the vessel can be admitted to free intercourse, it shall be ordered into port; if declared to be in quarantine, the captain shall be directed to proceed to the quarantine station and to display from the prow the yellow flag, and he shall be warned that he and his people must not communicate with the land or with any other vessel or person either directly or by writing until he receives further instructions, and that during such time he shall not allow any boat to leave the sides of his ship, nor allow any boat to approach thereto. If the captain shall not dare to conduct his vessel alone to the quarantine station, the health officer shall guide him, aided by a pilot boat either loose or attached to the vessel by a long rope.

14. If there be on board any sick and they or the captain ask medical assistance the health officer shall render such aid, taking all the precautions which the circumstances demand.

15. As soon as the health officer returns to land he shall communicate in writing with the captain of the port stating for what cause he has ordered the vessel into quarantine, and the time the same must continue. The captain of the port shall thereupon order a corporal and four men to station themselves at the quarantine station with instructions to prevent all communication with the vessel.

16. The captain of the vessel must also, as soon as he reaches the quarantine station, open and keep open from sunrise to sunset the hatchways, and cause the clothes of the passengers and crew and his

own to be placed in free air, as well as the bedding and bed-clothes, every day, and shall have the deck and cabins washed every day.

17. The quarantine guard shall have the use of the lifeboat to go to the side of the vessel whenever summoned by the captain of the same either to charge them with the purchase of provisions or water he may need, or to demand medical assistance, if there be any one sick on board. In the last case the corporal of the guard shall immediately inform the captain of the port, who shall at once order the doctor of the port to go and give the aid demanded, taking all precautions prescribed by science in such circumstances.

18. If the captain of the vessel lacks money and has no factor in the Republic, the revenue office of the port shall lend him what he needs, both for provisions and medicines prescribed, the application being made by the captain of the vessel on a memorandum visaed by the captain of the port, and for the payment of such sums the vessel, her tackle, and cargo shall stand bound. The provisions and other things needed by such vessel in quarantine shall be carried in a boat towed by the lifeboat and left on the windward side of the vessel, that the crew of the latter may go and take the same, if the quarantine be rigorous; but if simply a quarantine for observation, the launch may proceed alongside the vessel with the provision boat, but on the windward side of the same. In the first case the quarantine guard will return for the provision boat. The official and public correspondence of the vessel in quarantine shall be fumigated and pierced at the quarantine station under the supervision of the health officer, and in no case shall this be omitted.

19. The quarantine guard shall allow the captain and others on such vessel to bathe at the adjoining shore, but shall not allow any communication with other persons.

20. When the period of quarantine expires the health officer shall go on board such vessel and make an examination of the state of health of the captain and other persons on the vessel, who shall present themselves clean and dressed. If all are well the health official shall declare the quarantine ended and shall inform the guard that the vessel is free to enter port. If the captain asks a pilot in order to enter port, one shall be furnished without delay. In such case the pilot shall receive double pay. The health officer and his interpreter shall also receive double fees.

21. If any one dies on board the vessel in quarantine, the corpse shall be thrown into the sea sufficiently weighted to sink to the bottom.

22. Every vessel in quarantine must pay to the custom-house 1 cent per ton of registered tonnage for each day that it remains in quarantine.

The above is a free translation of chapter VII, pages 11 to 18, of the "Reglamentos de los puertos de la República."

All the contagious diseases, especially yellow fever, smallpox, and Asiatic cholera, are quarantined.

J. RICHARD WINGFIELD,
Consul.

UNITED STATES CONSULATE,
San José, Costa Rica, October 9, 1889.

SALVADOR.

REPORT BY CONSUL TUNSTALL.

PILOTAGE.

Pilotage is not compulsory in the ports of Salvador, and there are no fixed dues or charges for such service.

LIGHT DUES.

There is an established due of $10, irrespective of tonnage, for all vessels, payable in the three ports of the Republic, viz, Acajutla, La Libertad, and La Union, without discrimination of flag, vessels of Salvador paying the same duties and charges as foreign bottoms.

There are no light-houses properly so designated, but as a substitute a common locomotive light is placed in the upper corridor of the custom-house at a height of, say, 100 feet above sea level, making it visible about from 5 to 7 miles, which can only be discerned by vessels pretty well in front of the ports, as they are open roadsteads.

These dues are collected at the custom-house with other charges.

TONNAGE DUES.

Tonnage dues are 12 cents per ton upon all vessels, regardless of nationality, but when paid in one port exempt the vessel from payment in the other two ports for that voyage.

The steamers of the Pacific Mail Steamship Company and those of the German "Kosmo" line are exempt from these and all other dues and charges, in accordance with their contract with the Government.

QUARANTINE.

There are no established quarantine regulations, the Government taking upon itself to name the number of days for which a vessel shall be subjected to quarantine whenever she arrives from an infected port or without a clean bill of health—generally from 3 to 40 days.

There is no published list of diseases that would subject a vessel to quarantine.

T. F. TUNSTALL,
Consul.

UNITED STATES CONSULATE,
San Salvador, August 24, 1889.

SOUTH AMERICA.

ARGENTINE REPUBLIC.

REPORT BY CONSUL BAKER.

I am in receipt of the circular of the Department of State of the 15th of July last, instructing me to report upon annexed interrogatories in reference to the harbor regulations of the Argentine Republic.

In reply I have to state that under date of the 23d of August, 1881, I made an exhaustive report on this subject, which was published in Consular Report No. 13.* I do not suppose that it is necessary to repeat what I there stated on this subject, since the topics I then discussed, including "Port Ordinances," "Sailing directions for entering the river Plate," "Light-houses of Uruguay and the Argentine Republic," "Uruguayan light dues," "Pilot boats," "Buenos Ayres roadsteads," "Anchorage regulations," "Sanitary visits," "Quarantine regulations," "Custom-house ordinances," "Riachuelo port expenses," etc., are quite the same now that they were then, and on these topics it is only necessary to refer you to that report. As, however, there may be some changes in the tariff of charges, it may not be out of place to give them again.

PILOTAGE.

In reply to your interrogatories on this subject I have to say that pilotage is not compulsory in any case for vessels navigating Argentine waters. The penalty, however, for entering the ports of this country is the payment of one-half the established rate of pilotage. The rates are the same for vessels of the country as for those under other flags, and no foreign flag enjoys any special privileges in this respect. The rule in regard to pilotage extends to vessels in distress; but foreign war vessels do not pay pilotage except in cases where they choose to employ them.

The decree regulating the tariff for pilotage is as follows:

1. Argentine pilots are permitted to exercise their calling from the meridian of the capes St. Mary and San Antonio to any point, bay, or channel within the river Plate or Argentine coast of the Atlantic Ocean, and in the river Parana as far as Rosario, and in the river Uruguay as far as the city of that name.

2. Their tariff of charges shall be as follows:

From—	For vessels of—			
	120 to 300 tons.	301 to 500 tons.	501 to 1,000 tons.	1,001 to 1,500 tons.
The meridian of the capes to Buenos Ayres, Lujan, Ensenada, Magdalena, and intermediate ports, and *vice versa*	$70	$90	$110	$130
Montevideo, Point Indio, Santa Lucia, Colonia, and intermediate ports, and *vice versa*	40	50	60	70
The meridian of the capes to Rosario, San Nicolas, San Pedro, Campana, Uruguay, Gualeguaychú and intermediate ports, and *vice versa*	80	100	130	150
Montevideo, Point Indio, Santa Lucia, Colonia, and intermediate ports to the foregoing ports, and *vice versa*	60	80	100	110
Buenos Ayres to the Tigre, Rosario, San Nicolas, San Pedro, Campana, Uruguay, and intermediate ports, and *vice versa*	40	60	70	80

Vessels of more than 1,500 tons shall pay for the excess at the rate of 5 mills of the amount fixed for said tonnage for each 10 tons or fraction which exceeds 1,500 tons.

Pilots and captains can agree in writing upon special rates, but they must not exceed the tariff.

*Published as an appendix hereto.

LIGHTS AND LIGHT DUES.

The light dues of the Argentine Republic are uniform, without regard to whether the vessel is under steam or sail; and they are only payable at one port—and that whether there happens to be a light or not. Without repeating from my former report full descriptions of all the lights along the Atlantic coast of Uruguay, I give, in response to your interrogatory, the following in reference to those in the river Plate, approaching Buenos Ayres:

1. *Point Indio light.*—This is a floating, fixed light, white, the ship being anchored in 4½ fathoms water. Height of light 22 feet, visible in clear weather 11 miles; bearing from Point Indio NE. ½ N., 8 miles distant. Latitude 35° 10′ south; longitude 57° 5′ west.

2. *Chico Bank light.*—A floating, fixed, white light; the light ship is anchored in 4½ fathoms water, 12 feet high; visible in clear weather 8 miles; bearing from northeast point of Chico Bank, north 1 mile distant. Latitude 34° 48′ south; longitude 57° 39′ west.

3. *Farallon light.*—A white fixed light on the island of Farallon, 4 miles distant from Colonia, Uruguay; bearing west southwest with the island of Hornos, 5 miles distant. Magnetic flashes; 85 feet above the level of the water; visible, in clear weather, 13 miles. Latitude 34° 29′ south; longitude 57° 57′ west from Greenwich.

4. *Colonia light.*—A white light, revolving three times every 3 minutes; height 110 feet above the level of the sea. Visible 10 miles. Latitude 34° 28′ south; longitude 51° 31′ west.

5. *Buenos Ayres Roads light.*—A fixed red light, on a three-masted pontoon, painted black, 3½ miles from the custom-house and 40 miles north 74° west of the floating light on Chico Bank. Anchored in 16 feet water; visible 6 or 7 miles.

6. *Buenos Ayres port light.*—It is situated on the tower of the custom-house, a fixed white light.

7. *Boca port light.*—Two lights at the entrance of the Riachuelo or Boca port—one on the left-hand pier and one on the right-hand pier—both red.

The following are the provisions of the law regulating the collection of light dues, to wit:

1. All vessels from outside the capes shall, on their arrival, pay light dues at the rate of 7 cents per ton registered, being 3½ for their entrance and 3½ for their departure.

2. Vessels of more than 5 tons burden which navigate within the capes, shall pay upon their arrival at ports in the river Plate 1 cent per ton, reg stered, and on their departure 8 cents per ton.

3. Fishing vessels shall pay monthly 2 cents per ton, registered.

4. Vessels which enter or sail in ballast shall pay only one-half the above rates.

5. Vessels of 5 tons burden and less, and all vessels putting in in distress, are exempt from light dues.

These light dues are paid to the custom-house direct by the master of the vessel.

There is no discrimination in favor of or against vessels carrying the United States flag.

All vessels carrying the Argentine flag, equally with those of other nationalities, whether engaged in the foreign or coasting trade, must pay light dues, and these charges are the same as those assessed against vessels of the United States.

SANITARY VISITS.

Upon their arrival here from foreign ports all vessels are required to await a sanitary visit from the port doctor; and for this visit they must pay a duty of 2 cents per ton, registered.

It is further provided that vessels which proceed from infected ports, or which fail to present a bill of health, shall pay double the above rate for the sanitary visit; and when vessels enter in ballast or without passengers they shall pay only one-half the above rate.

No cargo will be permitted to be discharged nor will any vessels be cleared until the duties for its sanitary visit are paid at the custom-house.

TONNAGE DUES.

Tonnage dues on vessels entering the Riachuelo port of Buenos Ayres, whether on the foreign or coasting trade, laden or in ballast, are required to be paid to the custom-house authorities without any discrimination on account of the flag, and without any special privileges. The tariff exacted is as follows:

Sailing vessels of—	Per ton.
Less than 30 tons	$0.05
50 to 100 tons	.07
101 to 150 tons	.15
151 upwards	.30

Steamers and sailing vessels in ballast shall pay one-half the above rates.

Lighters engaged in the trading or unloading of larger vessels shall pay 5 cents per ton, whatever may be its tonnage, while they are occupied in such operations.

MOLE DUES.

All vessels, whatever may be their tonnage, while receiving or discharging cargoes at the public moles, must pay a duty of 2 cents per day for each ton registered up to 100 tons; and of 1 cent per ton daily for the tonnage exceeding that number.

All vessels, whether loaded or in ballast, which occupy the moles, shall pay 3 cents daily for each ton registered up to 100 tons, and 1 cent per ton daily for the tonnage exceeding that number.

QUARANTINE.

The rules in regard to quarantine are as follows:

1. Every vessel arriving from a foreign port without a bill of health or with a foul or suspected bill of health is put in quarantine; and so, also, when there are circumstances which place it in the condition of having a foul bill of health, or, for instance, when there is sickness on board, or a death has occurred during the voyage from any disease, or the cargo is in a state of putrefaction or decomposition.

2. There are two kinds of quarantine provided by ordinance; first, one of observation and the other of rigor. The first continues for 3 days, commencing from the time the master is notified, and it extends to the vessel, to the passengers, and to everything on the ship. This quarantine is performed at such anchorage as may be designated by the port authorities, and it is limited to a watch on the vessel, the

crew, and the passengers, and during its continuance neither the discharge of cargo nor communication with the shore nor with other vessels in the port will be permitted. If, after the lapse of this period, there is no development of disease requiring special attention, the vessel is placed in free pratique.

3. The quarantine of rigor will begin from the time the vessel enters the quarantine station or is placed in what is called "*lazaretto.*" It lasts 15 days for persons, 20 days for the vessel, and 30 days for the cargo. It can only be accomplished in a port having a *lazaretto* or quarantine station, where the disembarkation of the passengers and the fumigation and disinfection of the vessel and cargo are obligatory, with such other measures of regimen or of precaution as the public health board shall order.

4. Where vessels which have proceeded from an infected port, or which have a foul bill of health, have accomplished their quarantine at an intermediate port, they will, upon prensentation of proof of this fact, be admitted to free pratique, provided in the interval there has been no further occurrence on board to warrant a continuance of the quarantine. And every vessel, even with a clean bill of health, whose sanitary conditions are bad or compromising to the public health, shall be regarded as in the same condition as though they had a foul bill of health, and shall be required to go through the usual quarantine regimen.

5. Every master of a vessel who disobeys or evades the regulations or orders he may receive in regard to quarantine, shall be held guilty of a grave crime and shall be punished accordingly.

In reply to your last interrogatory, I have to state that, in all cases where the vessel or cargo on board requires fumigation, disinfection, or other regimen, the vessel must pay the expenses; as to passengers, all personal quarantine expenses must be borne by themselves.

In the Argentine Republic the National Government has established general rules and regulations in reference to quarantine, and these are supposed to have precedence over any local rules on the subject. The various cities of the Republic, however, also have their own boards of health, and they likewise are not slow to take precautionary measures in cases where epidemic is feared. Too often there is serious conflict in the respective regulations, and I believe the question of reconciling the two interests, local and national, in reference to quarantine and the treatment of epidemics is now pending in the national congress.

In view of the approaching season when epidemics are most to be feared, the National Government is now spending $200,000 to open a provisional lazaretto on the Isla Verde, and to refit the steamers *Rosette* and *Singapore* for floating hospitals.

Last year the Argentine Republic, Uruguay, and Brazil held a sanitary convention in Rio Janeiro to adopt measures of an international character, and came to such conclusions in reference to the question of quarantine against each other as it is supposed will hereafter produce less ill-feeling, resentment, and retaliation than has heretofore been the case. I accompany this report with a copy of the sanitary regulations which were agreed upon.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, August 31, 1889.

PORT REGULATIONS OF BUENOS AYRES.

[Appendix to Consul Baker's report, from Consular Report No. 13.]

The port regulations of Buenos Ayres are probably less understood by vessels coming from abroad than those of any other port in the world. They consist principally of decrees and orders, which have been added to and taken from, for the last half century; some contained in official blue books, and others still in manuscript, safely archived in the office of the captain of the port, the provisions of which seldom see the light, until some offending vessel, wholly ignorant of having transgressed any existing ordinance, is quietly notified that it has been fined for some delinquency. Upon arriving at a port, masters of merchant ships generally have a copy of the port regulations placed in their hands for their guidance, but here they are left to find them out the best way they can, and no excuse will avail them in case there is any infraction of the same. No small portion of a consul's time here is employed in correspondence or interviews with the port authorities in behalf of vessels of the nation which he represents, and in arranging their unintentional delinquencies and shortcomings.

It has occurred to me that in pursuance of the requirements of section 382 of the Consular Regulations, it might save shipmasters much trouble—searching through a wilderness of official rubbish—to translate and collate in convenient form such regulations as are most important to be known to vessels trading at this port, if indeed it can be called a port, since sea-going vessels are unable to approach nearer than 3 or 4 miles from the shore, while the large ocean steamers are compelled by the shallow water to anchor 10 or 12 miles away.

ENTERING THE RIVER PLATE.

A vessel's troubles, however, begin almost immediately upon entering the River Plate, which, owing to ocean and river currents, shallow water, banks, and frequent storms, has in the past been a recognized graveyard for all classes of sea-going craft. Not only the coast from Cape St. Mary to Modtevideo is lined with wrecks, but every bank in the river holds half buried in the sands the remains of vessels which met disaster in approaching Buenos Ayres. Though the water is thoroughly salt long before, the *embouchure* of the La Plata is generally fixed between East Point (some say Cape St. Mary) or the Uruguayan shore and Cape San Antonio on the Argentine coast.* Between these points it is 122 miles wide; between Espirillo and Point of Rocks it is 50 miles wide; and between Colonia and Buenos Ayres it is 20 miles wide. The length of the Rio de la Plata is only 165 miles in a straight line. Following the sinuosities of the coast, however, the distance from East Point to the mouth of the Uruguay River is 235 miles; and on the south shore, the distance from Cape San Antonio to the mouth of the Parana River is 216 miles. The superficial surface has been computed to be 9,245 square miles. The mean depth of the river opposite Cape San Antonio is 12 metres (41¼ feet); opposite Point of Rocks it is 5 metres (17¼ feet), and opposite Buenos Ayres it is 3¼ metres (11¼ feet). The bottom is generally of soft mud, more or less mixed with sand as it approaches the ocean. On the south coast, which is low and flat, *tosca* extending out under the bottom of the river a distance of 6 miles, is found in large quantities. This is a formation of petrified marl or mud which has been exposed to sun and weather until it has become so exceedingly hard that it has the firmness, consistency, and all the qualities of stone, water having no effect in softening it. At the mouth of the river the sand is full of small shells.

LIGHT-HOUSES.

How the river was navigated by sea-going vessels before the days of light-houses is a mystery. The first light was not erected until 1792. It was near Flores Island on the hulk of the Spanish man-of-war *Loreto*, which went ashore there. It was subsequently (1798) transferred to the Cerro of Montevideo. Within the last few years the light service of the River Plate has been considerably improved. There are now 14 lights, 9 on shore and 5 floating. The former are respectively located at East Point, St. Mary's Cape, Flores Island, the Cerro at Montevideo, Punta Brava, Colonia, Farallon, Point San Ignacio, and Buenos Ayres custom-house. The latter are respectively located at the English Bank, Point Indio, Chico Bank, Panela Rock, and the Buenos Ayres guard-ship or pontoon. The following is the official description† of these several lights.

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*Navigacion del Rio de la Plata, pp. 17, 18.

†Digesto Argentino de Marina, page 397 *et seq.*

1. *St. Mary's Light.*—White light, revolving and flashing every minute; height, 135 feet above the level of the sea. The capacity of the light is 16 miles, but in clear weather it can be seen a distance of 18 to 20 miles. Cape St. Mary, at the mouth of the Rio de la Plata, is readily recognized by the two little islands near it, named Palorna and Tuna. Latitude, 34° 40′ 30″ S., longitude, 45° 57′ 10″ W. from the meridian of San Fernando.

2. *East Point Light.*—This is a fixed white light on the point of Maldovado, 152 feet above the level of the sea; visible 14 miles. Latitude, 34° 58′ S.; longitude, 48° 38′ W. from Cadiz.

3. *Point Ignacio Light.*—A white fixed light, situated on San Ignacio Point. It bears SW. ¼ W. with the island of Lobos, distance 16 miles; and N. 52° E. with Cape St. Mary, distance 27 miles. Height above the level of the sea, 107 feet. Visible 15 miles in clear, fair weather. Latitude, 34° 50′ W.; longitude, 54° 42′ W. from Greenwich.

4. *Flores Light.*—This is a revolving light, one revolution every minute, on Flores Island. Height, 104 feet. Visible at a distance of 12 miles in clear weather. Latitude, 34° 57′; longitude, 49° 37′ 40″ W.

5. *English Bank Light.*—This is a floating light; the pontoon is anchored in 7 fathoms of water on the north end of the bank. The light is fixed, and visible 10 miles. Latitude, 35° 06′ S.; longitude, 49° 36′ W.

6. *Panela Light.*—A floating light; the pontoon is anchored in 5 fathoms of water; distant 7 miles west-southwest from Point Yerguas, and 1 mile south of Panela Rock. A white light; visible 8 miles. Latitude, 34° 56′ S.; longitude, 30° 07′ W.

7. *Punta Brava Light.*—This is a fixed white light at the entrance of the roads of Montevideo on the reef near the point called Punta Brava, bearing W. ¼ SW. 12 miles distant, and with the light on the Cerro bearing W. 15° N., distant 8 miles. Visible 10 miles in clear weather. Height, 73 feet above the level of the sea. Latitude, 34° 67′ S.; longitude, 56° 08′ W. of Greenwich.

8. *Cerro of Montevideo Light.*—This is a revolving light, three revolutions every 3 minutes; 486 feet above the level of the sea. Visible 25 miles. Latitude, 34° 53′ 48 S.; longitude, 49° 56′ 42″ W.

9. *Point Indio Light.*—This is a floating fixed white light, the lightship being anchored in 4½ fathoms water. Height of light, 22 feet; visible in clear weather 11 miles; bearing from Point Indio NE. ¼ N., 8 miles distant. Latitude, 35°10′ S.; longitude, 57° 5′ W.

10. *Chico Bank Light.*—A floating fixed white light; the light-ship is anchored in 4½ fathoms water; 12 feet high; visible in clear weather 8 miles. Bearing from north. east point of Chico Bank north, 1 mile distant. Latitude, 34° 48′ S.; longitude, 57° 30′ W.

11. *Farallon Light.*—A white fixed light on the island of Farallon, 4 miles distant from Colonia, bearing west-southwest with the island of Hornos, 5 miles distant. Magnetic flashes; 86 feet above the level of the water; visible 13 miles in clear weather. Latitude, 34° 29′ S.; longitude, 57° 57′ W. from Greenwich.

12. *Colonia Light.*—A white light, revolving three times every three minutes; height, 110 feet above the level of the sea. Visible 10 miles. Latitude, 34° 28′ S.; longitude, 51° 31′ W.

13. *Buenos Ayres Roads Light.*—A fixed red light on a three-masted pontoon, painted black, 3½ miles from the custom-house and 40 miles N. 74° W. of the floating light on Chico Bank. Anchored in 16 feet water; visible 6 or 7 miles.

14. *Buenos Ayres Port Light.*—It is situated on the tower of the custom-house, a fixed white light.

URUGUAYAN LIGHT DUES.

Until last year, all vessels entering the river bound to Argentine ports were required to pay dues for all lights on the Uruguayan coast, even though they did not touch at any point on that side of the river, the Government of Uruguay having an agent in Buenos Ayres for their collection; and no vessel would be dispatched by the Argentine Government until they were liquidated. But the injustice, not to say illegality, of this requirement attracted the attention of the foreign consuls residing here, and a decree was finally promulgated abolishing their payment altogether. They are only paid now by vessels entering the ports of Uruguay.

PILOT BOATS.

Vessels entering the river from the north generally try to make St. Mary's light; but great care should be taken by them in approaching the coast, since the currents which set in towards the shore have in thick weather carried many a merchant ves-

sel and ocean steamer to their destruction. Between this light and that of East Point, pilot boats are constantly cruising. They may be recognized by a white flag with a blue border and the initials of the pilot in the center; but, as there is a regular tariff of charges, captains are cautioned against extortion by these pilots in the adjustment of their pilotage. All vessels, however, should take a pilot, and especially those drawing more than 5 metres (18 feet) of water, since there are places in the channel to Buenos Ayres which are exceedingly narrow and tortuous, particularly in the neighborhood of the southeast extremity of the Ortiz bank. It should be borne in mind, moreover, that the banks and bars suffer continual changes from inside currents and outside storms, and that only pilots who have continually to make soundings and examine the channels are able to know these thoroughly. Vessels of less draft than 2¼ fathoms are almost always able to pass over the Ortiz bank through its whole extent, but vessels of greater draft must pass by the channels which the banks form with the coast. It is convenient, also, to remember, in the passage, that when the lead reveals soft mud the vessel is in the right place; but when the mud is mixed with sand, that the vessel is near some bank, and especially when the sand is abundant or the bottom is hard. The precaution should be taken to cast anchor the moment that there is any doubt in regard to the exact position of the vessel, especially if the weather be threatening.

SAILING DIRECTIONS TO BUENOS AYRES.

There are three channels from Montevedio to Buenos Ayres—the north, the south, and the middle. The first is formed by the north shore of the river Plate and the Ortiz bank, but it is too shallow for any but vessels drawing not more than 4 fathoms. The second or south channel is comprised between the south shore of the river Plate and Chico Bank, and is able to admit vessels drawing 16½ feet of water. The third or middle channel, which is between Ortiz and Chico Banks, is the deepest and consequently the most used. According to the most approved sailing directions,* the first thing to be done, after leaving or passing Montevedio, is to sight the light-ship off Point Indio. The direct bearing is WSW. 5° W., but the currents in the river will render it necessary to change the course a little. This light is distant from the Cerro of Montevideo 35 miles. Here generally a Buenos Ayres pilot is taken on board. Leaving this pontoon behind, the vessel should then take a northwest course in order to pass between New Bank and that which skirts the Argentine coast. The depth of water increases from 7 metres to 8 or 10 (29 to 36 feet), and then very gradually diminishes. If the soundings remain the same, it is a sign that the currents are taking the vessel towards the Chico Bank, in which case it will be necessary to change the ship's course towards the north to find deeper water (28 to 39 feet). This found, the vessel should once more proceed on a northwest course until it makes the floating light on Chico Bank. Passing this, the soundings will now mark from 6 to 9 metres (23 to 35 feet), with a mud bottom, and the depth will continue to decrease towards the roads of Buenos Ayres. The rocks on the north part of Chico Bank are very dangerous, and great care should be taken with the soundings. Avoiding these, the ship has but little difficulty in making the outer roads of Buenos Ayres. The depth of water in the channel varies from 23 to 35 feet.

ROADSTEADS OF BUENOS AYRES.

The port of Buenos Ayres is really nothing more than the river in front of the city. It is divided into two anchorages, called the outer and the inner roads, separated from each other by what is known as the City Bank. The outer roads, 8 miles distant from the shore, consist of a channel about a mile wide and 3 or 4 miles long northwest by southeast, and lying between the City Bank and that of Los Palmas. It is here that merchant vessels generally anchor. At the east end, however, there is a bar which prevents the passage of vessels drawing more than 20 feet, so that large ocean steamers are obliged to remain outside—a distance of 12 to 14 miles from the shore.

The inner roads are immediately in front of the city, where vessels of not more than 12 feet draft may anchor. Here is found the smaller river steamers and the fleet of small craft which trade up the Parana and Urugnay Rivers.

None of these anchorages are of the best quality, owing to the fact that the bottom is too soft; and with winds from the northeast ships readily drag their anchors. During storms from that direction the damages done by vessels fouling each other, and even by being driven into the shore, are sometimes very considerable. When these storms set in, two anchors will sometimes not suffice to hold the ship.

*Navigacion del Rio de la Plata, page 249.

ARGENTINE LIGHT DUES.

The following are the provisions of the law* regulating the collection of light dues, to wit:

1. All vessels coming from outside the capes, including regular packets, shall pay light dues at the rate of 6 cents per ton registered.

2. Coasting vessels, or those navigating within the capes, including also regular packets, of more than 20 tons register, shall pay light dues for each voyage or trip from the City Roads, or from the Boca del Riochuelo, or from the port of the Tigre at the rate of 1 cent per ton registered.

3. Coasting vessels of less than 20 and greater than 5 tons shall pay 20 cents for each trip.

4. Shore vessels, lighters, and beach boats shall pay as follows:

Vessels of—	Per month.
5 to 20 tons	$0.30
21 to 50 tons	.50
51 to 100 tons	.70
101 to 200 tons	1.00
201 to 300 tons	1.50
301 tons and over	2.00

5. No dues are collected from vessels of less than 5 tons register.

6. Vessels arriving and departing in ballast shall pay one-half the above tariff.

7. Vessels putting in, in distress, are exempt from the payment of light dues provided they neither discharge nor receive cargo.

8. Until a convention shall be made with the Uruguayan Government in regard to the light-house service of the river Plate, the captain of the port shall not coöperate in the collection of any light dues which are not authorized by the laws of the Argentine Republic.

ARGENTINE PILOTAGE.†

1. Sea-going vessels from foreign ports passing up the river Plate directly to Argentine ports, are not obliged to take a pilot; but in order to avoid accidents or injuries in the channels or ports, through ignorance, in case they do not take a pilot, they are required to pay to the state, upon entering, one-half the established rate.

2. Only pilots licensed by the Argentine Republic are allowed to bring vessels into the Argentine ports.

3. Argentine pilots may cruise anywhere from the meridian of the capes of St. Mary and St. Antonio to any port, bay, or channel within the river Plate or on the Argentine coast of the Atlantic Ocean; also, in the river Parana to Rosario and in the river Uruguay to Concepcion.

TARIFF FOR PILOTAGE.

The following is the established tariff‡ for pilotage, to wit:

From—	Vessels of—			
	120 to 300 tons.	301 to 500 tons.	501 to 1,000 tons.	1,001 to 1,500 tons.
The meridian of the capes to Buenos Ayres, Lujan, Ensenada, or Magdalena, and *vice versa*	$70	$90	$110	$130
Montevideo, Point Indio, Santa Lucia, Colonia, and intermediate points, and *vice versa*	40	50	60	70
The meridian of the capes to Rosario, San Nicolas, San Pedro, Compana, Uruguay or Gualequaychú, and intermediate ports, and *vice versa*	80	100	130	150
Montevideo, Point Indio, Santa Lucia, Colonia, and intermediate ports to the last-named ports, and *vice versa*	60	80	100	110

Port pilotage.

For pilotage into the roads, and *vice versa*, or for changing a vessel's anchorage in the balize or canal	$14.00
For pilotage from outside the bar of the roads	28.00
For each day passed in quarantine over 48 hours	4.00

* Ley estableciendo el derecho de faros. Setiembre 29 de 1875.

† Decreto reglementando el ejercicio de practicos, Novembre 7 de 1877.

‡ Tarifa de Practicos Lemanes, aprobada en 2 de Enero de 1878.

REGULATIONS OF THE PORT.

The regulations* for vessels at anchor in the port of Buenos Ayres embrace quite a volume of ordinances. The following are the most important to be known:

1. The port pilots are required to take charge of vessels upon their arrival and anchor them in the roads, with 45 fathoms of chain to each anchor, from the capstan, and give notice to the captain that he must constantly keep his chains clear and maintain buoys to each anchor.

2. The port pilots are required to keep an oversight of the vessels they may have piloted, and to require that the captains shall reanchor them in their places, should they have dragged their anchors. Should the captains refuse to do this, they are to be reported to the captain of the port.

3. Every pilot shall be responsible for all damages occasioned by his own negligence or incapacity, upon proof of which he shall have his license taken from him.

4. Every vessel which enters the balize is required to take a pilot to moor it in the anchorage, under a penalty of double pilotage, to be paid to the captain of the port.

5. Every vessel at anchor in the outer roads must constantly have on board at least two-thirds of its crew; and in case of not so having them, shall be responsible for all damages which may ensue, except in "fuerza mayor."

6. Every captain of a vessel is obliged to see that his anchors are properly buoyed, in default of which he shall pay a fine of $16 gold.

7. The captain of every vessel which has dragged its anchors or changed its anchorage must report the same to the captain of the port, in order that the port pilot which moored the vessel may anchor her anew.

8. Whenever a storm threatens, every vessel in the port must display a light at least 8 inches in diameter, under a penalty of $50 gold fine.

9. All differences and disputes between pilots and shipmasters shall be settled by the proper authority.

10. Every merchant vessel anchored in the ports of the republic shall constantly, during the night, maintain a clear light in the proper place of not less than 8 inches in diameter, in default of which it shall pay a fine of $4 gold for each infraction, and be responsible for all resulting damages.

SANITARY VISITS.†

1. Every merchant vessel entering a port of the republic shall pay a tax of 2 cents per ton registered for the sanitary visit.

2. All vessels which arrive from infected ports, or which do not present a bill of health, shall pay a sanitary tax of double the above amount.

3. Vessels entering in ballast, or without passengers, shall pay one-half the above tax for sanitary visit.

4. Every merchant vessel from a foreign port, upon entering at any port in the republic, shall present a certificate from the captain of the port, or subdelegate, to the officer of the custom-house, showing if the vessel has a bill of health, if it has passengers on board, and if the port it comes from is infected or not, in order that the custom-house may settle with said vessel the proper duties for the sanitary visit.

5. No cargo will be permitted to be discharged or received, nor will any vessels be dispatched, until the duties for its sanitary visit are paid.

QUARANTINE REGULATIONS.

1. Every sea-going vessel arriving at any port of the republic without a bill of health, or with a foul or suspected bill of health, shall be declared in quarantine; and so, also, when there are circumstances which place it in the condition of having a foul bill, as, for instance, sickness on board, a death during the voyage from any disease, or a cargo in a state of putrefaction or decomposition.

2. There shall be two kinds of quarantine, one of observation and one of rigor. The first shall continue 3 days, commencing from the time the master is notified, and shall extend to the vessel, to the passengers, and to everything on board.

3. The quarantine of observation shall be performed at such anchorage as the port authorities may designate, remote from the roads and separated from as many vessels as possible.

4. The quarantine of observation shall be limited to a watch on the vessel, its crew, and passengers; and during its continuance neither the discharge of merchandise nor communication with other vessels in the port will be permitted.

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* Guia political del navegante en Aguas Argentinas, 1875.
† Reglamento sanitorio, Junio 18 de 1870.

5. The quarantine of rigor will begin from the time the vessel enters the quarantine station or is placed in lazaretto, and is to last 15 days for persons, 20 days for the vessel, and 30 days for the cargo.

6. Quarantines of rigor can only be accomplished in a port with a lazaretto; and the disembarkation of the passengers and the fumigation and disinfection of the vessel are obligatory, with such other measures as the public health board may direct.

7. Every vessel proceeding from an infected port or with a foul bill of health, which may have accomplished its quarantine at an intermediate port, upon presenting proof of this fact will be admitted to free pratique, provided in the interval there has been no occurrence on board warranting a further quarantine.

8. Every vessel, even with a clean bill of health, whose sanitary conditions are bad or compromising to the public health, shall be declared to be in the same condition as though they had a foul bill, and shall go through the usual quarantine regimen.

9. Every master of a vessel who disobeys the regulations and orders which he may receive in regard to quarantine shall be held guilty of a grave crime and be punished accordingly.

CUSTOM-HOUSE REGULATIONS.

The ordinances of the custom-house * are embraced in a volume of several hundred pages. The most important of those which concern merchant vessels are the following. The numbering of the paragraphs is my own:

1. The navigation of the rivers of the nation are free to all flags, subject only to the regulations which the national authority may prescribe.

2. No vessel is permitted to navigate between any port of the nation and a foreign port without having on board (1) the ship's register; (2) official clearance of the vessel; (3) list of the crew; (4) invoice from the custom-house of the port from which the vessel sailed, verified and vised according to law; (5) bills of lading of the cargo on board; (6) manifest of the cargo in detail.

3. As soon as a vessel enters the port, the adjutant or subdelegate of the port will at once pay an official visit, delivering to the master a copy of the "Regulations of the custom-house," and asking for the correspondence and a list of the passengers which she brings. These regulations are sixteen in number, printed in five columns, respectively, in the Spanish, French, English, Italian, and German languages.

4. The master of the vessel must at once present a general and exact manifest of the cargo, vised by the Argentine consul of the port from which he sailed, making also a separate list in any language of the packages which the passengers carry with them, as also of the small parcels or samples not put down in the manifest of the cargo. He must furthermore deliver a statement of his remaining stores and provisions on board.

5. If the vessel proceeds from a port where there is no Argentine consul, and the master does not have a general invoice of her cargo drawn up by the custom-house authorities of her port of departure, then the master must make up such manifest and remit it to the visiting officer within eight hours. In this manifest must be included cargo, parcels, samples, and remaining provisions.

6. It is not necessary to manifest the ship's apparel or the clothing of passengers.

7. If the master is not able to present a complete manifest within the prescribed time, he may substitute the original bills of lading, under the receipt of the custom-house official, accompanying them with a list of such cargo as is not included in them and of the provisions on board.

8. Having thus completed a general manifest of his ship, the master shall note at the foot of it that he has received a copy of the ordinances of the custom-house and knows their contents, and he and the visiting officer shall sign the same.

9. The visiting officer then seals up the documents in an envelope addressed to the inspector of the custom-house, and delivers it to the master to be handed by him to the inspector, leaving a guard on board to prevent the landing or transshipment of anything until permission shall be received, excepting samples, small parcels, and luggage, free of duty.

10. Neither the master nor any of the crew, under a penalty of $50, is allowed to come on shore until the manifest has been prepared in the manner mentioned; and the first time he comes he must bring with him the said document, to be delivered, closed and sealed, as he received it.

11. Should the master of a vessel refuse to present a general manifest of his cargo, he will be obliged to leave the port at once.

12. Within 48 hours after delivering said manifest to the custom-house officer on shore any error in the document or in the translation may be corrected.

* Las ordenanzas de aduana.

13. The master of every ship arriving from a foreign port must present himself at the custom-house within 3 days after his arrival, unless prevented by "fuerza mayor."

14. If the master of a vessel, on the occasion of the official visit, fails to present the manifest of the consul or of the custom-house of the port from which he proceeded, he will be subject to a fine of $50 in favor of the fiscal.

15. If the master discharges or transships other cargo or goods than those on his manifest without permission, the same shall be confiscated in favor of the discoverer or informer, the consent of the guard not serving to excuse him from this penalty.

16. After the expiration of 48 hours allowed for the correction of errors in the manifest, such errors will be punished with the confiscation of all that has been omitted, to go to the informer, and a fine of $20 to go to the fiscal.

17. When a master brings on shore articles belonging to the stores of his vessel without having previously obtained a corresponding permit from the custom-house, the same shall be confiscated in favor of the person who discovers and apprehends them. If a lighterman has interfered in the operation, he also shall suffer a fine equal to the value of the goods, to be adjudicated also to the person who makes the discovery.

18. If a master refuses to exhibit his bills of lading when required by the authorities, he will be amenable to a fine of $250 in favor of the fiscal.

19. If a master does not bring with him a manifest of his cargo from the port of shipment, or is without the required bills of lading, unless he can prove that those documents were lost by shipwreck or other accidents of the sea, besides the fine of $250 there will be exacted from him 80 cents for every ton of cargo which are necessary to the complete loading of the vessel; and the cargo which is on board shall be deposited in the fiscal stores until the legal duties are satisfied.

20. If the master, in exhibiting his manifest, keeps back any of his bills of lading, if the packages are not included in the manifest, he shall pay a fine equal to the value of the packages; if the packages are on the manifest, he shall pay one-half their value, to be adjusted at the custom-house.

21. If upon the discharge of the vessel the number of packages are short, the master will be fined $20 for each package less than the number called for by the manifest.

22. If upon making the visit, after the vessel has completed her discharge, there is found any cargo which was not manifested, the master must pay the excess.

23. Whatever articles remain on board at the time of the clearing of the vessel, without permission of the custom-house, will be confiscated if they do not appear on the manifest of the vessel, and the master will be fined to the amount of their value. If they appear on the manifest, he shall pay the duties on them the same as though they had been landed.

I could extend this résumé of these regulations of the custom-house, but the above are the most important, which it is necessary that our American shipmasters should be acquainted with. The formalities for discharging and loading can be learned by them through the houses to whom they may be consigned.

As the discharge of the cargoes of sea-going vessels lying in the roads is done by means of lighters, and can be accomplished only during good weather, it frequently happens that vessels are delayed here for many weeks. The expenses attendant are very great; in many cases the cost of discharging the cargo is more than the entire freight from the port of shipment.

THE RIOCHUELO PORT.

To obviate the above-mentioned expenses the Government is now engaged in opening a channel from the outer roads to the Riochuelo, a little river very similar in size and appearance to the Chicago River, emptying into the La Plata just south of the city. A large amount of dredging has already been accomplished, and the channel now readily admits vessels drawing not more than 17 feet of water. During the last year a large number of American vessels with lumber cargoes have discharged at this point, and more would do so if the charges were more moderate. The tariff* extracted from vessels is as follows:

Mole dues.

		Per ton.
1. Vessels from 5 to 100 tons register	per day..	$0.04
Vessels from 101 and upwards register	do....	.05

*Decreto del 18 de Noviembre de 1878.

Port dues.

2. Sailing vessels of 10 to 50 tons register	$0.10
Sailing vessels of 51 to 100 tons register	.15
Sailing vessels of 101 to 150 tons register	.30
Sailing vessels of 151 and upwards register	.60
Lighters and shore vessels	.10

3. Steamers shall pay, according to their tonnage, one-half the above charges.

4. Sailing vessels which enter and clear in ballast shall pay, according to their tonnage, one-half the above port dues.

The intention of the Government is to deepen the channel of the Riochuelo and still further dredge that which leads to the outer roads until sea-going vessels and ocean steamers of the largest capacity can at all times pass in and discharge their cargoes alongside of wharves and warehouses to be constructed in connection with these public works. This will be accomplished probably during the next ten years, and will give Buenos Ayres, what for three hundred years she has been without, a safe and reliable harbor.

E. L. BAKER,
Consul.

UNITED STATES CONSULATE,
Buenos Ayres, August 23, 1881.

BRAZIL.

BAHIA.

REPORT BY CONSUL BURKE.

PILOTAGE.

As far as I can learn there is no law or regulation whatever, either governmental, provincial, or municipal, as to pilotage at this port or at any other port in this consular district or province of Bahia. Recently, however, I have been informed that the coming Parliament will take up the question with a view of enacting a law providing for pilots along the Brazilian coast. Information reaches me also that the provincial assembly of Bahia at its next session will adopt measures looking to a system of pilotage.

As there is no compulsory pilotage, so there are no charges, unless a vessel wishes to employ a pilot. Such a thing is not prohibited when the vessel pays according to agreement. And a vessel of any nation has this privilege of employing a pilot if it wishes. But in case of the damage or wreck of the vessel while in the hands of the pilot the vessel has no redress, but must stand the loss the same as if there were no pilot on board.

LIGHTS AND LIGHT DUES.

Every foreign vessel pays light dues at the first and second ports entered anywhere along the Brazilian coast. No matter how many more ports are entered, either in coming from the north or from the south, these dues are paid only at the first and the second ports of entry. As far as I can learn there is no port of entry without a light.

The altitude of the light at this port, known as the "Barra" light, is about 110 feet, and, according to the captain of the port, is said to be visible at a distance of 30 miles.

The captain of one of the American steamers, however, once said to me that under favorable conditions the light might be seen from 9 to 13

miles. Under certain conditions of the atmosphere the captain stated that it is difficult to distinguish it (the light) from many other lights that may be seen in the upper city on entering the bay.

This is particularly the case when the light-house light is not especially bright. A thing that must necessarily happen often, unless great care is taken in properly trimming and taking care of the lamps, in which a poor quality of kerosene or whale oil seems to be used, emitting a great deal of smoke. The light is revolving, and consists of two white and one red flash. It is said the present light is soon to be replaced by something better and more modern.

All foreign vessels, no matter of what nationality, pay light dues, as follows:

Vessels up to—	Milreis.
200 tons register	40$000
400 tons register	60$000
700 tons register	80$000
Vessels above 700 tons register	100$000

This money is collected through the custom-house, and is paid by the captain of the vessel or the consignee. National steamers of regular lines do not pay these dues, nor the small craft plying from port to port.

TONNAGE DUES.

There are no dues known as tonnage dues, but every vessel, foreign or national, excepting Brazilian packets, pays a *passé* of 6,700 reis. For two-masted craft there is also a tax on hull of 4,000 reis, or about $2; and on three-masted craft 6,000 reis, or about $3.

OUTWARD FREIGHT DUES.

Stamps on outward freight for Brazilian ports are levied on all craft, as follows:

On freight up to the value of 500 milreis ($250), 1 milreis.

On freight to the value of 1,000 milreis ($500), 2 milreis in stamps; and on every additional 1,000 milreis, or fraction of the same, 2 milreis must be paid.

For ports outside of Brazil the following is the rate: On freight to the value of 500 milreis, 2 milreis in stamps. On freight to the value of 1,000 milreis, 4 milreis of stamps, and on every additional 1,000 milreis or fraction thereof, 4 milreis.

DOCK DUES.

Dock dues, though there are no docks, are charged at the rate of 600 reis, or 30 cents per metre, calculated on the length of the craft discharging goods at the custom-house.

All light, dock, and freight dues are subject to an additional 5 per cent.

HOSPITAL DUES.

Foreign vessels of all nationalities pay as hospital dues 640 reis, equal to 35 cents for every man of the vessel. Brazilian steamers are exempt from the payment of hospital dues.

QUARANTINE.

There are no rules as to quarantine. Whenever it is deemed necessary a quarantine is placed upon vessels by order of the president of the province. Nor can I learn that there is any printed or written list of diseases whereby it can be determined what diseases are quarantined. In general, diseases that are considered epidemic, are quarantined, the time extending from 3 days to 10. The ship pays all charges of fumigation. The passengers who are unfortunate enough to be sent to the lazaretto bear the expenses incurred while there. I understand the president of the province has sole power in ordering and enforcing such quarantine regulations as he sees fit, the health officer of the port acting under the orders and according to the instructions of the president.

DAVID N. BURKE,
Consul.

UNITED STATES CONSULATE,
Bahia, October 17, 1889.

PARA.

REPORT BY CONSUL CLAYTON.

PILOTAGE.

Pilotage is compulsory in all cases for Brazilian as well as for foreign vessels.

Pilot charges are the same for Brazilian and foreign vessels.

All ships pay according to draft of water.

No foreign flag enjoys special privileges in this regard, but Brazilian mail steamers, Brazilian war vessels, and the Western and Brazilian Telegraph Company's ships, if they have on board a coast pilot, do not pay bar pilotage.

Vessels in distress and foreign war vessels pay pilotage.

LIGHTS AND LIGHT DUES.

Light dues on steam and sail, laden or in ballast, are payable at more than one port in the same country during the same voyage. That is to say, if a vessel or steamer enters three or more ports on the same voyage she only pays in the first two ports, but she must take from those first two ports a certificate that she has paid, otherwise she must pay in each port. These duties payable whether there is or is not a light.

Salinas Light: Revolving every 2 minutes; bright, visible at a distance of 15 miles. Height about 80 feet above high-water level.

Bragança light-ship: Fixed white, about 50 feet above high-water level; visible 7 miles.

Ponto de Carmo Light: Fixed white, about 40 feet above high-water level; visible 5 miles.

Chapeó Light: Fixed bright, about 40 feet above level of high water; visible 4 miles.

Fort Light: Fixed bright, about 90 feet above high-water level; visible 6 miles.

Castello Light: Fixed red, about 80 feet above high-water level; visible 4 miles.

As to American vessels, rate charged per ton:

	Milreis.
From 1 to 200 tons	40
From 201 to 400 tons	60
From 401 to 700 tons	80
Above 701 tons	100

To all add 5 per cent.

The dues are collected through custom-house.

There is no discrimination in favor of or against vessels of the United States.

The charges are the same to all vessels, home and foreign.

TONNAGE DUES.

No tonnage dues are charged, but a hospital tax is collected from all vessels, without regard to flag.

No vessels of any nationality enjoy special privileges, with the exception of mail carriers, who have the privilege of working and sailing during the night time.

QUARANTINE.

The rules as to quarantine are uncertain. No regular rules.

Diseases quarantined: Cholera, yellow fever, and smallpox.

As to duration of quarantine for each and from each port, there is no time specified; according to circumstances.

The ship quarantined bears the expenses of detention and fumigation as to passengers and cargo.

Quarantine rules are established by the state or province, but the General Government can take full charge and supersede the former.

In reply to the request to forward to the Department all publications which may be obtainable concerning the foregoing subjects, I would reply that as far as I have been able to ascertain there are no publications obtainable.

ROBT. I. CLAYTON,
Consul.

UNITED STATES CONSULATE,
Para, October 1, 1889.

PERNAMBUCO.

REPORT BY CONSUL BORSTEL.

PILOTAGE.

Pilotage is compulsory in all cases for vessels of the country as well as for foreign.

Pilot charges are the same for Brazilian as for foreign vessels.

No flag enjoys special privilege in any district.

Vessels in distress and foreign war vessels pay pilotage.

LIGHT DUES.

Light dues are charged on steam and sail, laden or in ballast.

Foreign vessels arriving at ports of this empire, either from foreign or national ports, with cargo, or simply in ballast, with passengers or colonists, going into harbor or to the clearing anchorage ground, shall pay light dues, to be levied every time the vessel enters a national port, except the regular lines of steamers, which are obliged to pay in the two first ports they may have entered, whether in coming direct, or altering their voyage, and for which payment they shall request a certificate so as to obtain the necessary exemption at the other ports at which they require to call on the same voyage.

Dues are only paid at ports where light-houses are established.

The rates charged American vessels are the same as other nations, viz:

For vessels—	
Up to 200 tons	$20.00
Up to 400 tons	30.00
Up to 700 tons	40.00
Exceeding 700 tons	50.00

These dues are levied every time that vessels enter any national port. Foreign vessels employed on coasting trade pay light dues every six months.

These charges are collected, upon the vessel entering in the custom-house, from the consignee.

All foreign vessels have to pay light dues, and in addition to the above, they pay 400 reis* per metre upon the elevation of the respective light.

Brazilian vessels pay no light dues, neither coming from foreign ports nor home ports.

LIGHT HOUSES.

Light-houses in this consular district are as follows:

Province of Piauhy.—Light-house No. 1, Pedra de Sal: Situated on the point of Pedra de Sal; light fixed, white. Apparatus of fourth order, dioptric, visible 10 miles; light established on March 4, 1873. Octagonal tower of cast-iron, the elevation of the light 18 metres above high-water mark.

Geographical position, latitude 20° 49′ S., longitude 41° 43′ 30″ W. of Greenwich.

Two men employed.

Ceara.—Light-house No. 2, Mucuripe: Apparatus of light is dioptric of fourth order, and exhibits a light making a revolution every minute; it is on a circular cast-iron tower. Situated on elevated ground 35 metres above high-water mark, the light is visible at the distance of 15 miles in clear weather.

Geographical position, latitude 3° 42′ 10″ S., longitude 38° 27′ 30 W., Greenwich.

Two men employed.

Light-house No. 3, Aracaty: Situated on the point leeward of the entrance of the Jaguaribe River.

Geographical position, latitude 4° 24′ 20″ S., longitude 37° 43′ 50″ W. of Greenwich.

Apparatus of the light is dioptric of fifth order; the light is white, and fixed in a circular tower of masonry and whitewashed; the light is elevated 40 metres above high-water mark, and is visible at 10 miles in clear weather.

Two men employed.

* 400 reis is equal to 20 cents United States money.

Rio Grande do Norte.—Light-house No. 4, Reis Magos: Situated on the Fortress of the Reis Magos, on the entrance of the river Rio Grande do Norte. Apparatus, dioptric of the fifth order; white fixed light, visible 10 miles; is erected on columns of cast-iron.

Geographical position, latitude 5° 45′ 5″ S., longitude 35° 11′ 20″ W., Greenwich.

Three men employed.

Parahyba.—Light-house No. 5, Pedra Secca: Situated on rocks of Pedra Secca on an octagonal tower of forged iron on square base of masonry.

Latitude 6° 57′ 20″ S.; longitude 34° 48′ 50″ W., Greenwich.

Apparatus of the light is dioptric of fourth order; revolving white light, making a revolution every minute; it is elevated 16 metres above high-water mark; light visible at 10 miles.

Pernambuco.—Light-house No. 6, Piccao da Barra: Situated on the northern extremity of Recife (capital); presents a clear white flash for 3 minutes, then shows red for the space of 1 minute and 5 seconds; eclipses of a space of 5 seconds. Apparatus of the light is catoptrical and is elevated 20½ metres above high-water mark; it is on an octagonal tower of masonry, its light being visible 15 miles in clear weather.

Geographical position, latitude 8° 3′ 25″ S.; longitude 34° 50′ 10″ N., Greenwich.

Two men employed.

Light-house at Olinda No. 7: Situated on the old fort of Montenegro. The apparatus of the light is dioptric of fourth order; exhibits a fixed light, alternated by white flashes every 2 minutes; the light is elevated 9 metres above high-water mark, in an octagonal tower of cast-iron, and is visible at a distance of 10 to 12 miles in clear weather.

Geographical position, latitude 8° 1′ 20″ S.; longitude 34° 50′ 50″ W., Greenwich.

Light-house at Roccas No. 8: On the 1st of January, 1883, a provisional light was erected on this rock. It will remain there until a permanent one is erected. The apparatus of the light is lenticular of sixth order. It is located on a mast 15 metres high and exhibits a white light. It is visible all round the horizon at a distance of 9 miles in clear weather. The mast stands on the northwest part of this reef, and the most northern part of the island is 5½ miles to the extreme southeast of the same. The island of Roccas forms an elliptic configuration, tending from the northwest to the southeast. The highest point of the island is elevated 3 metres above high-water mark.

Geographical position, latitude 3° 52′ S.; longitude 33° 47′ 35″ W., Greenwich.

Three men employed.

Light-house of Cape Santo Agostinho, No. 9: Inaugurated on the 25th of March, 1883, on the cape of that name. The apparatus of the light is dioptric and lenticular of the first order, and exhibits a fixed white light illuminating all round the horizon. The plane of the light is elevated 105 metres, or 344½ feet, over the surface of the sea. The light is visible 25 miles in clear weather. The tower is of iron and painted white; close to the light-keeper's house, which is also painted white.

Geographical position, latitude 8° 20′ 40″ S., longitude 34° 56′ 10″ W. of Greenwich.

Alagoas.—Light-house at Mareio, No. 10: It is situated on the west side of the same, on a hill above the city, 1 mile from the anchorage of vessels. The apparatus of the light is dioptric of the third order; exhibits fixed white light varied by flashes; the light is elevated 60

metres above high-water mark, and it is visible at a distance of 20 miles in clear weather.

Geographical position, latitude 9° 39′ 20″ S., longitude 35° 43′ 50″ W. of Greenwich.

The tower is of masonry and has an octagonal shape. It was inaugurated on July 1, 1856.

Two men employed.

TONNAGE DUES.

Tonnage dues are collected from all vessels arriving loaded, at the following rate: For each register ton, 10 cents in United States money, and 10 per cent. on this amount; afterwards an additional 6 per cent. on the sum total. This will make about 12 cents per ton on the average, taking in consideration the fluctuation of exchange in the Brazilian currency. This applies only to vessels loaded, if a vessel calls for orders and does not discharge cargo, or arrives in the ballast, no tonnage dues are paid.

No discrimination is made in regard to flag. Brazilian sailing vessels pay the same as foreign vessels, but all steamers of that nationality are exempt.

The only vessels which enjoy special privileges are regular steamship lines that touch in this consular district. They are exempt from tonnage dues, loaded or in ballast, and all flags are treated the same; but tramp steamers of all foreign nationalities pay tonnage dues as above.

QUARANTINE.

Certain diseases are only quarantined in this consular district for so many days.

The duration of quarantine for plague is 20 days; for yellow fever, 10 days; and for cholera, 8 days. Some abatements are made if no deaths have occurred on the voyage from these diseases.

The expenses of detention and fumigation fall upon the owners of the vessels.

Quarantine is established by the General Government.

The state has no authority over quarantine in any of the ports of this consular district.

H. C. BORSTEL,
Consul.

UNITED STATES CONSULATE,
Pernambuco, September 25, 1889.

RIO GRANDE DO SUL.

REPORT BY CONSUL BENNINGTON.

PILOTAGE.

It is provided by article 1 of the law now in force that there shall be an official, denominated "capitania do porto," in each of the maritime provinces of the Empire, who is charged with the following duties:

First. The naval police of the port and its anchorage grounds, the preservation and improvement of the port.

Second. The inspection and administration of lighthouses, vessels for relief, beacons, buoys, and dredging vessels.

Third. The muster-in roll of seafaring men, and of the crews employed in navigation and traffic of the ports and coast, the pilotage of the last, and the bars.

Fourth. The levying of fines for noncompliance with the published regulations of the port.

Fifth. The decision in a summary manner of questions regarding naval police, and the losses or damage that occurs among vessels in the harbor.

Sixth. The requisition of the aid of the civil and military authorities and of armed force wherever required to carry into effect the provisions of the regulations, to arrest and punish those who do not comply therewith.

Seventh. The ordering of the expenditures of the establishment within the limits marked annually by the marine department of the Empire, or conformably with any order and special authorization issued by the department.

Eighth. The appointment of persons necessary to discharge the duties of his office.

In those provinces of the Empire, the ports and navigation of which require pilots for the bars, anchorage stations, rivers, lakes, and coast, the captain of the port shall organize a regulation wherein shall be declared the number of pilots necessary, the qualifications they must have, their obligations and duties, and shall also determine the manner of passing the examination for diplomas.

Pilotage for the port of Rio Grande do Sul is compulsory, because the entrance to the port is obstructed to a very great extent by a dangerous bar, composed of sand and fluvial alluvion, which is constantly shifting its position; for this alone there has been organized a pilot service, which makes daily soundings when practicable, locates buoys to mark the channel, which is constantly changing direction because of the counter influences of ocean and lake currents, and to indicate the course to be taken by vessels entering or clearing the port.

When a strong southeast wind blows, a heavy current sets in from that direction, encountering the outflowing waters of Lakes Mirim and De los Patos with their alluvia; these opposing forces* frequently produce great waves, which for a time render navigation across the bar impracticable, fill up the channel in one place and open it in another. If a frequented channel becomes partially or totally closed, another is almost immediately opened, as the drainage area of these lakes, which is near 64,000 square miles, furnishes enormous quantities of water, which must be discharged into the ocean at some point.

No vessel should attempt to cross the bar without being directed by one of the bar pilots, who can always be seen on the bank when the bar is practical. Pilot charges for the bar service are 280 reis per registered ton, without distinction of flag, payable in the imperial customhouse for this port.

For vessels in distress the payment of bar pilotage depends upon circumstances. If it is clear that the vessel could have proceeded no farther without great risk and danger of loss, then no charge is made, neither is any charge made for any foreign war vessel.

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* For the port of Petotas there is a provincial tax of 132 reis per registered ton on all steam and sailing vessels. This tax is levied for the purpose of maintaining in navigable condition the bar at the mouth of the Rio Lão Gonçalo, which connects Lakes Mirim and Patos.

When any ship, Brazilian or foreign, has crossed safely the bar, then the services of the bar pilots are ended, and before the vessel can proceed from the inspection anchorage to any port on Lakes Mirim or dos Patos, a pilot belonging to the lake or inside service must be employed and taken on board, even though the vessel be towed by a steam tug.

This branch of the pilot service is established for the navigation of the lakes, which is difficult on account of the existence of numerous shoals and narrow and crooked channels. While inside, it is provided that no vessel shall be navigated or shifted from any mooring, unless under the direction of a regularly licensed pilot. There is a schedule of prices for this class of pilotage; but as the fees are paid generally by the masters direct to the pilots employed, prices are cut considerably in the sharp competition practiced among them.

The maximum price from the bar to this port is the equivalent of $17.50; from the bar to Petotas, $27; and from the bar to Portalegre, $38. However, steamship agents make special arrangements with pilots for their respective lines.

LIGHTS AND LIGHT DUES.

Light dues are paid by all foreign steam and sailing vessels without distinction of nationality, Brazilian excepted, at the rate and in the manner following: For vessels up to 200 tons register, 40 milreis and 5 per cent.; from 200 to 400 tons, 60 milreis and 5 per cent.; from 400 to 600 tons, 80 milreis and 5 per cent.; from 600 to 800 tons, 100 milreis and 5 per cent.; and for vessels over 800 tons, 100 milreis and 5 per cent.

The additional tax of 5 per cent. on the fees was added a few years since under a statute providing a fund to be appropriated for the abolition of the slaves and to assist immigration.

These dues are paid into the imperial custom-house, if for a steamer, by the agent of the line to which it belongs, and if for a sailing vessel, by the consignor or his broker, but in either case the amounts paid are charged to the account of the vessel as a part of the port expenses. Light dues are paid at first port of entry, and vessels are not required to pay in other ports entered on same voyage for final entry until after ship has been discharged and is about to proceed from said final port with cargo or in ballast, when light dues for that port must be paid before ship will be given a clearance from the custom authorities.

These dues, it will be observed, are not collected specially for the lights of any particular port, but for a general fund of the country, to be employed in the administration of lighthouses.

The light at the entrance of this port is on the north point about 1 mile from the extremity, is a fixed and flashing white light, 96 feet above the level of the sea, visable 14 nautical miles.

On lake De los Patos fixed white lights, each visible about 12 miles, are located at Estreiuto, Bujurń, Capão da Marca, Christorão Pereira, and Itanhaen.

TONNAGE DUES.

There is no tonnage tax charged by the Imperial Government at this port, but there is a provincial tax of 150 reis per registered ton, to be paid annually into the provincial custom-house, and a special tax of 15 milreis per voyage for sailing vessels and 30 milreis for steamers. This regulation applies to all ocean-going vessels, whether Brazilian or not, and without distinction of flag.

QUARANTINE.

The quarantine rules for this port are the same as those adopted for the Empire by decree No. 9554, 3d of February, 1886, reorganizing the sanitary service of Brazil. There are two kinds of quarantine—a quarantine of inspection and a quarantine of rigor.

In the health bureau of the Central or Imperial Government there is an inspector-general of health, who exercises jurisdiction over all the port inspectors of health at the different ports of the Empire, whose duties are defined by law and the regulations of their chief. Rigorous quarantine is enforced against oriental plague or pest, cholera, and yellow fever.

Should a steamer arrive or other vessel with such diseases aboard, or with reports of death from them on board while in voyage, the inspector of health of the port has the right to direct the vessel to proceed to a certain anchorage for quarantine until he shall have obtained instructions either from the president of the province, or if the matter is of great urgency he may address the inspector-general direct.

The rule enforced here last March in regard to the yellow-fever infected ports of Rio de Janeiro and Santos was to remain 10 days in quarantine, including time in passage from last infected port. The additional expense of detention was borne by passengers, who were charged an extra sum for passage money. The disinfection of ship and cargo was done at quarantine station, under direction of the inspector of health of the port and at the expense of the vessel.

There seem to be no definite regulations respecting quarantine, because when the ports of Brazil were declared closed against those of the Rio da Preta on the 6th day of November, 1886, on account of the existence of cholera there, all vessels proceeding from those ports for this or any other port of the Empire were obliged to go to Ilha Grande, a short distance south of Rio de Janeiro, and pass quarantine inspection, the length of time conforming to duration of voyage from last infected port.

LEBBEUS G. BENNINGTON,
Consul.

UNITED STATES CONSULATE,
Rio Grande do Sul, September 12, 1889.

BRITISH GUIANA.

REPORT BY CONSUL WALTHALL, OF DEMERARA.

PILOTAGE.

Pilotage is compulsory for all vessels entering or leaving this port (Demerara), without discrimination as to flag, with the following exceptions:

1. Vessels under 35 tons burden [inclusive] "arriving from the neighboring colonies, including Cayenne and Oronoque, and also from the whole range of the West India Islands from Porto Rico to Trinidad, inclusive," are exempt from pilotage, except at their own option.

2. Vessels over the tonnage above specified, arriving as aforesaid, are liable to pilotage only three times in any one year, except at their own option.

3. Vessels arriving here, seeking a market or freight, and proceeding to another port or place, without making an entry at this port, are not liable for pilotage, unless they require or actually accept the services of a pilot.

4. Vessels belonging to the colony, and passing from one port thereof to another—that is to say, colonial coasting vessels—are exempt from pilotage, except at their own option—that is, unless they require or actually employ a pilot.

Pilot charges are the same for vessels of this colony as for foreign vessels, unless, possibly, in the case of coasting vessels, mentioned in the fourth exception above noted, with regard to which the regulations do not seem to be very clearly specified.

No foreign flag enjoys any special privilege in this regard.

There is no specified exemption from pilotage for vessels in distress, although it is believed that, if not actually requiring or employing a pilot, they might be exempted under the provision relative to vessels seeking a market or freight and not making an entry, as stated in the third exception above noted.

Neither British nor foreign men-of-war are exempt from pilotage. It is believed, however, that the Imperial Government objects to the charge on British vessels of war, and that they will probably be exempted ere long. This is not given as an authentic, but merely as a conjectural statement.

These statements relate to the port of Georgetown (Demerara), at the entrance of the Demerara River. The only other port of entry in the colony is that of New Amsterdam, or Berbice, at the mouth of the Berbice River. The harbor regulations of the two are not identical, depending upon distinct and separate ordinances of the colonial government, but it is believed that in general they are substantially the same, varying only in certain details and in the rates of pilotage.

LIGHTS AND LIGHT DUES.

No light dues (as such) are levied in British Guiana. The coast and harbor lights are maintained from the general pilotage fund.

A light ship is anchored off the mouth of the Demerara River at a distance of nearly 9 miles from the shore. It is painted red, hoists a blue flag by day, and at night displays a fixed white light at the height of 30 feet, and visible in clear weather for the distance of 12 miles.

The light-house on shore at the same port is 103 feet in height, and shows a white light, revolving once every minute, and visible for 16 miles.

The light vessel for the harbor of New Amsterdam (Berbice) is moored at a distance of 9 miles from St. Andrew Point, on the eastern side of the entrance of the Berbice River. It exhibits a fixed white light, visible at the distance of 10 miles.

TONNAGE DUES.

Tonnage dues are levied on all vessels arriving from any port or place without the limits of the colony—not on those engaged in the colonial coasting trade—whether laden or in ballast, with the following exceptions:

1. Vessels under 70 tons burden are charged not more than four times a year.

2. Steamers carrying mails, making two entries "from any port beyond the seas" within 21 days, are liable to tonnage dues once only.

3. "Vessels belonging to or chartered by Her Majesty or Her Majesty's Government, or any foreign government recognized by Her Majesty," are exempt from tonnage dues.

4. "Vessels employed on any work of public utility" are exempt, at the discretion of the governor.

5. Yachts, which in the opinion of the comptroller of customs are "not used in any trade or business," are exempt.

6. Mail steamers of certain specified lines, subsidized by the British, French, and Dutch Governments and arriving and departing at fixed dates, are exempt.

7. Vessels calling at any port of the colony without breaking bulk, taking in cargo, or conveying passengers, are also exempt; *provided* that no officer or seaman of the vessel is left in the colony, or becomes an inmate of any colonial hospital or prison, before the vessel departs.

No discrimination is made with regard to flag, unless against public vessels of a government not recognized by Great Britian, as in the third exemption above noted; and no special privileges are conferred upon vessels of any nation, unless the exemption of lines of mail steamers, mentioned in the sixth can be considered.

QUARANTINE.

In answer to the question, "What are the rules as to quarantine?" a printed copy of the existing regulations of the colonial quarantine board is respectfully forwarded with this report. It will be observed that they are based upon and refer to "the quarantine ordinance, 1870," the organic enactment under which the board is created, and which defines its powers and duties, and those of the officers and employés acting under its authority. This board has authority to alter, amend, or modify its regulations at any time with the consent of the governor and court of policy—the colonial legislature.

With regard to diseases subjected to quarantine, only cholera, smallpox, plague, and yellow fever are specified in the ordinance, but to these is added "any other epidemic disease of a contagious or infectious character, which the governor may from time to time declare by proclamation to be a disease in respect of which quarantine shall be enforced."

As regards the duration of the quarantine, it will be observed by reference to the "Rules and Regulations" herewith forwarded that it is left to the discretion of the quarantine board, subject to the condition that it must not exceed 14 days, counted from the time when the last case of infectious disease on board of the vessel terminated, either by recovery or death of the patient, or from the time when she left an infected port. Provided, however, that if a new case or new cases occur during the continuance of the quarantine it may be extended for an additional period, not to exceed 14 days. In the case of vessels coming from a place infected with smallpox this limitation is extended to a period of 40 days from her arrival in the colony; or if any case has actually occurred on board the limitation as to time seems to be entirely removed, and the duration of the quarantine left absolutely at the discretion of the quarantine board.

These rules are established by the government of the colony. Municipal or other local authorities have no control whatever with regard to quarantine. The Imperial Government of Great Britain might, pre-

sumably, exercise paramount control, if so disposed, but practically does not interfere with the action of the colonial government in the matter.

A conference of delegates from the various British colonies of the West Indies (including Central and South America) was held at this place in October, 1888, for the purpose of devising a uniform system of quarantine. They drew up a "Model Ordinance," with that view, for submission to the various colonial governments—their own powers being merely deliberative and advisory—but I am not informed whether any action has been taken upon it as yet by any of the governments interested. None has been take by this colony.

One of the questions put by Department is thus stated: "Who bears the expenses of detention and fumigation as to passengers and cargo?" This question was inadvertently overlooked in its proper order among those above answered. The ordinance is not explicit with regard to the matter of expense, and it has so rarely been put in force that it is hard to deduce a precedent for its interpretation from actual practice. The officers of the government charged with its execution, of whom inquiry has been made, seem themselves to be somewhat uncertain on the subject. The prevailing opinion, so far as expressed, is that the vessels are chargeable with the expense incurred. There is, however, no positive enactment in the ordinance to that effect, and in the case of detention of passengers by the mail steamers, express provision is made by the "Rules and Regulations" of the quarantine board for the payment of their subsistence by the government.

Under these circumstances, it is hardly possible to give a definite answer to the interrogatory.

W. T. WALTHALL,
Consul.

UNITED STATES CONSULATE,
Demerara, September 3, 1889.

CHILI.

REPORT BY CONSUL MERRIAM, OF IQUIQUE.

PILOTAGE.

The employment of pilots for vessels entering or leaving Chilian ports is optional on the part of shipmasters, whether of steam or merchant vessels, and irrespective of the flag, whether national or foreign.

The laws regulating pilotage, tonnage dues, and quarantine are established by the General Government, and are uniform for all the ports of the Republic. Article 13 of the general regulations of maritime police, issued by the minister of marine in accord with the minister of finance in 1887, is as follows:

In the ports where the Government has established pilots, these only may pilot, moor, or unmoor vessels, provided always their services are called for by their respective masters. The master of the vessel may act alone, in which case he will be held responsible for the damage he may occasion.

Any person other than the master of the vessel, or not belonging to the corps of harbor pilots, performing any of the operations described in the preceding paragraph, will be fined 50 pesos, and will moreover be held responsible for the damage he may have occasioned.

LIGHT DUES.

None are levied in any Chilian port.

TONNAGE DUES.

All classes of vessels excepting men-of-war, whether on the foreign or coasting trade, laden or in ballast, pay 10 cents per ton once each year, which are collected on the first voyage made during the year; although the vessel may enter port on the 31st of December, the payment of the tonnage dues is applicable only to that day, and must be paid again for the coming year on the subsequent voyage.

No discrimination is made in regard to flag, nor are any special privileges enjoyed by vessels of any nationality.

QUARANTINE.

Vessels arriving at Chilian ports having on board cases of smallpox, yellow fever, or other grave contagious disease, are put in quarantine at once by the captain of the port, and the Government at Santiago is at once informed of the circumstances of the case, when instructions are given as to the duration of the quarantine. In the only case of quarantine at this port during the past 19 years, and which was because of suspected infection from cholera, the municipality bore the expenses of fumigation.

J. W. MERRIAM,
Consul.

UNITED STATES CONSULATE,
Iquique, August 14, 1889.

Maritime police of Chili.

[Inclosure in Consul Merriam's report.]

SANTIAGO, *October* 5, 1887.

In view of these antecedents and in agreement with the ministry of finance I decree the following general regulations of maritime police jurisdiction.

ARTICLE 1. To the maritime authority corresponds the police of the territorial seas,* ports, bays, canal, and inland seas, navigable rivers. The police of piers and loading places also corresponds to the maritime authority, which must render assistance to the preventive service of the custom-house, whenever it may be required, for the purposes the latter serves.

The preventive service in its turn and the municipal guards may be required by the maritime authority to give assistance in the maintenance of order and in the apprehension of delinquents.

ART. 2. Every person belonging to the crew of a national or foreign ship, or any one being casually on board must appear at the summons of the maritime authority, under penalty of a fine of from 10 to 50 pesos.

DISTINCTIVE FLAGS OF THE CRAFT OF THE MARITIME AUTHORITY AND OF THE PREVENTIVE SERVICE.

ART. 3. The craft of the maritime authority will use when on duty a white broad pennant with red edges 1 metre long and 33 centimetres deep, with a red C in the center. Those of the preventive service will use a broad penant of the same dimensions, with blue edges and a letter R of the latter color in the center of a white ground.

No other craft is allowed to make use of these flags.

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* The adjacent sea to the distance of a marine league, measured from the lowest tide line, is territorial sea and of national dominion; but the right of police for objects concerning the safety of the country and the observance of the fiscal laws, extends to a distance of 4 marine leagues, measured in the same way. (Art. 593 of the Civil Code.)

PLACES IN WHICH VESSELS MAY ANCHOR AND CONDITIONS TO WHICH THEY MUST SUBMIT.

ART. 4. No craft is allowed to touch at or to approach near to any part of the coast that is not a qualified port of commerce unless she be forced to do so by imminent danger of shipwreck or of capture or any other similar necessity.

Any craft disobeying this order will be confiscated in conformity with article 83 of the custom-house regulations.

ART. 5. On the arrival of a vessel in a port the maritime authority will assign her the berths he is to occupy, which berth must not be changed without the permission of the said authority, unless this happens by superior force, or the immediate safety of the vessel requires it, in which case the master must, at the earliest opportunity, report to the said authority.

ART. 6. After assigning the berth the vessel is to occupy, the maritime authority will determine the number of moorings, their directions, and the length of chain by which the vessel should be anchored, according to the season of the year and the knowledge which the said functionary should possess of the prevailing winds and currents.

Masters of vessels are forbidden to give their anchors any other direction than that prescribed.

ART. 7. Any vessel which is inadequately supplied with anchors, chains, or cables, or which has them in bad condition, will not be allowed to be moored in places where from this cause she might occasion damage to others. In case of being she will be notified to provide herself on the same day with the article in which she may be deficient, and in case of noncompliance will be removed from her berth and moored at her own expense in such other as the maritime authority shall deem proper.

ART. 8. If a vessel should let down her anchor or chain over the anchor or chain of another vessel that is properly moored, the master of the former must at once, or as soon as notified thereof by the aggrieved party, cause said anchor or chain to be taken up and cleared.

No vessel will be considered properly anchored when she has more than one turn in her chains or cables; any vessel having more than two turns will be anchored again at her own cost by the maritime authority.

ART. 9. No vessel may be anchored within less distance than 50 fathoms from another; any vessel which encroaches on this distance and does not move at once when required to do so will be removed at her own cost by the maritime authority.

ART. 10. In those ports where, owing to the large assemblage of craft, the smallness of the anchoring ground, or other circumstances, it may be necessary to moor vessels head and stern, the maritime authority may decrease the distance spoken of in the preceding article, determining what may be expedient.

ART. 11. No vessel shall attempt to remove from one berth to another, make fast to the mole, or cast loose from it without the permission of the maritime authority.

Any vessel changing her berth without leave, unless in case of absolute necessity, will be fined 25 pesos.

ART. 12. Every sailing vessel or steamer at anchor must show at night where it can best be seen, but not higher than 6 metres above her hull, a white light, visible at least a distance of 1 mile, placed in a globular lantern of a diameter not less than 20 centimetres, and so constructed as to illuminate the whole horizon uniformly and uninterruptedly.

PILOTAGE.

ART. 13. In the ports where the Government has established pilots, these only may pilot, moor, or unmoor vessels, provided always their services are called for by the respective masters. The master of the vessel may act alone, in which case he will be held responsible for the damage he may occasion.

Any person other than the master of the vessel, or not belonging to the corps of harbor pilots, performing any of the operations described in the preceding paragraph, will be fined 50 pesos, and will, moreover, be held responsible for the damage he may have occasioned.

LOADING AND DISCHARGING.

ART. 14. No shipmaster shall begin to load or discharge his vessel except she be anchored according to the requirements of article 6, under a penalty of a fine of 50 pesos and of being compelled to stop loading or discharging until properly moored.

ART. 15. Every vessel making fast to a mole for the purpose of loading or discharging must, at sunset, cast loose from it and remove to a distance equal at least to the length of her deck, under the penalty of a fine of 25 pesos, unless the mole regulations fix another distance.

ART. 16. Whenever a vessel has to load or discharge a considerable quantity of merchandise, she will have a berth assigned to her as near the place of embarkation or disembarkation as her safety and any other circumstances will allow.

ART. 17. Whenever a vessel anchored in a place suitable for loading or discharging shall have completed either of those operations, she will change her berth in case it be necessary or she be ordered so to do, and to such place as the maritime authority may direct.

Any vessel disobeying this order will be fined 25 pesos without prejudice to her being also removed at her own cost.

ART. 18. When a vessel is once loaded, the crew are bound to remain on board day and night.

WARPS.

ART. 19. It is forbidden to have permanent warps attached to vessels, buoys, or moles, whenever they would interfere with the freedom of traffic, under the penalty of a fine of 10 pesos.

Any one who for the purpose of performing some operation may require to make fast one or more warps, must be careful to let them go immediately after it is terminated.

OPERATIONS WITH LIGHTS.

ART. 20. No craft of any description whatever shall at night perform operations of stowage, loading, or discharging requiring extra lights, without the previous knowledge and leave of the maritime authority, under the penalty of a fine of 30 pesos, excepting in cases of sudden urgency, or if the safety of her moorings requires it.

WAR MUNITIONS.

ART. 21. No merchant vessel which may have on board munitions of war in greater quantity than is required for the service of the same vessel, is allowed to remain in the national ports for a longer period than that allowed her by the maritime authority, who will without delay ask instructions of the intendente of the respective province.

INFLAMMABLE MATERIALS.

ART. 22. All vessels carrying powder or other inflammable materials will, on arrival, advise the maritime authority of the same, and they must neither transship or embark said articles without leave of the said functionary, under penalty of a fine of 50 pesos.

ART. 23. All vessels importing, loading, or transhipping powder or any other inflammable substances, will keep a red flag flying at the fore-topmast head during the whole time they remain at the berth assigned them by the maritime authority.

In like manner all small craft trafficking with inflammable materials in the bay, must carry the same description of flag on a staff of sufficient height to render it distinctly visible. Offenders against this regulation will be subjected to the fine prescribed in the preceding article.

REPAIRS.

ART. 24. No craft of any description shall undertake extensive repairs, such as heaving down, putting fire under her bottom, or fumigating, without leave of the maritime authority, and without taking the precautions the latter may enjoin, under penalty of a fine of 50 pesos.

ART. 25. All vessels are forbidden to heat pitch, tar, or tallow in their furnaces. Any one infringing this prohibition will be fined 50 pesos.

ART. 26. Any vessel requiring to be careened or to execute other repairs in her hull or masts, will be assigned by the maritime authority a suitable place for receiving the tools and material; and if she should require to be hove down on careening hulks or to make fast to them must be moored head and stern.

ART. 27. Whenever a vessel in a place appropriated to the purpose of heaving down or careening shall have completed her repairs she will, if necessary, change her berth to such place as the maritime authority may direct, and in case of noncompliance will incur a fine of 25 pesos and be removed at her own expense.

COMMUNICATION WITH SMALL CRAFT.

ART. 28. No small craft or boat may come alongside of vessels entering the port until after the visit of the captain of the port and the coast guard, under penalty of a fine of from 20 to 100 pesos.

In every case the visit of the maritime authority will take place first, and not until communication with the shore has been authorized, that of the coast guard.

The master of any ship allowing any craft to come alongside before the visit of the coast guard, and failing to inform the maritime authority thereof stating the number and signs of the craft or crafts, and of her or their crew, will be fined from 20 to 50 pesos, according to the gravity of the case.

INTERDICTION.

ART. 29. Every craft interdicted for any cause will keep her national flag flying at the fore topmast head during the whole time she remains at the general mooring place; but if interdicted because of an epidemic disease which obliges her to remain in quarantine, she will hoist at the same masthead a yellow flag and will take the anchoring place the maritime authority assigns. In both cases this signal will indicate that nobody is to communicate with her, under a fine of from 20 to 100 pesos, according to the case.

TRANSPORT OF PATIENTS WITH EPIDEMIC DISEASES.

ART. 30. Every master of a vessel having on board patients ill of contagious epidemics and failing to inform the maritime authority thereof, at the time of his visit, or attempting to conceal them in order to obtain leave of free communication with the shore, will incur the penalty prescribed in article 318 of the penal code.*

DISCHARGING OF FIREARMS AND THROWING OF EXPLOSIVE MATTERS.

ART. 31. It is forbidden to discharge firearms with projectiles of any description and to throw into the sea explosive matters from on board either men-of-war or merchant vessels, lying in the bay.

No merchant vessel is allowed to discharge firearms of any description, even without projectiles.

If it be a war vessel, the occurrence will be set forth to the commandant-in-chief of marine in the department, and to the administrative authority, if it be a foreign vessel in any other port. In every other case the master of the ship or the person supplying his place at the time of the occurrence will be held responsible before the maritime authority if it should be impossible to discover the offender.

SIGNALS OF THE INTERNATIONAL CODE.

ART. 32. Every national vessel which, on entering a port, shall fail to hoist the signals of the number corresponding to her in the code of signals of the mercantile marine or shall display a number different from the one assigned to her, will be fined 10 pesos.

BAD WEATHER.

ART. 33. Whenever the weather is bad the vessels anchored in the port must let go their second anchor, hoist their boats, haul in their guest-warp booms, send down their royal and topgallant masts, and top their lower yards.

ART. 34. When there are signs of a storm masters and the rest of the ship's company must remain on board, and the former will be answerable for the damages they may cause by their neglect of this injunction.

Whenever the barometer indicates bad weather, the maritime authority will hoist a signal on its respective staff.

SHIPWRECK, GROUNDING, AND ASSISTANCE.

ART. 35. The maritime authorities are called by preference to lend the necessary assistance in any case of shipwreck and grounding, and will be responsible for any carelessness or neglect.

* Minor reclusion in its least to its middle degree, or fine of 100 to 1,000 pesos.

In the absence of the master of the ship, the insurance agents, or the supercargo, it is the duty of the maritime authority to direct the salvage operations, and in all cases to dictate the measures necessary for the safety of the persons and articles saved.

In these functions the maritime authorities will proceed according to the prescriptions of articles 130 and following of the navigation laws.

ART. 36. In case of a storm, loss, grounding, fire, or any other danger, it is the duty of all vessels lying in the port, as well as of tugs and freight boats, to lend to those who need it all possible assistance with towlines, chains, warps, anchors, or men they can dispense with, on requisition of the maritime authority, under penalty of a fine of from 20 to 100 pesos, to be imposed on those who do not comply with these prescriptions or who will not obey the said authority.

The maritime authority will determine the indemnity to be paid by the vessels assisted for the services afforded as well as for the deterioration or loss of the articles lent to them.

ART. 37. All craft anchored in the bay needing assistance in consequence of being in imminent danger, will make use of the signals for assistance indicated in the regulations for avoiding collisions and boardings, or will ring a bell repeatedly, both day and night, hoisting at the same time during the day their national flag and exhibiting during the night two or more signal lanterns in the most conspicuous part of their hull or rigging.

SHIPPING AND DISCHARGING.

ART. 38. Masters of vessels may not ship nor discharge any one of their crew without the previous knowledge of the maritime authority and must give him a paper signed at the time of the discharge, stating whether or not he has fulfilled his engagement, his conduct and the cause of his leaving, as well as other pertinent facts. This discharge will enable him to ship in another vessel.

ART. 39. After sunset it is forbidden to land passengers on any part of the shore except the principal mole or at the spot designated by the maritime authority and the chief of the preventive service.

ART. 40. Any person caught embarking or disembarking at prohibited places and hours, will be taken to the office of the captain of the port or delivered over to the police until the following day.

ART. 41. In case of fire in the bay or in the town, or of any other extraordinary occurrence requiring the active coöperation of the whole population, communication will at once be opened between the bay and the town, in order that the requisite assistance may be rendered.

BALLAST, STONES, ETC.

ART. 42. No craft of any description will be allowed to ballast or unballast without leave previously obtained from the maritime authority and at the place designated to her. The operations of ballasting and unballasting must be performed with the usual appliances of tarpaulins or sails laid from the gunwale of the vessel to the bottom of the launch, in order to prevent the stone or sand from falling into the sea.

Offenders against this article will incur the following penalties:

1. For any quantity of ballast without license	$10
2. For taking or discharging it in any other than the place designated	15
3. For neglect of the precautions described in the regulation for taking in or throwing out ballast	20
4. For every ton of ballast thrown into the water in the anchoring ground	25
5. For every time rubbish or filth is thrown overboard	10
6. For throwing rubbish in any other than the place designated	100

If the same act involve the infraction of two or more of the points enumerated in the above list, it will be published with the fine that applies to each of them.

ART. 43. The same penalties will be applied to launches carrying stone, brick, or other lose submersible material likely to injure the bottom of the harbor if in loading, transporting, or discharging they neglect the precautions prescribed by the maritime authority similar to those relating to ballasting and unballasting; and in extraordinary cases of lightening by throwing overboard, owing to a gale of wind or other mischance, they are to show the urgent necessity for their having so done in order to avoid serious accidents.

DEPARTURE OF SHIPS.

ART. 44. No national vessel must leave port until the master or agent has presented to the maritime authority—

First. The license for departure signed by the local authority, stating the class, nationality, name, destination, cargo, and "without claim" of the custom-house.

Second. Two lists signed by himself with a heading stating the class, nationality, name, tonnage, and destination of the vessel, and below the names and nationality of his crew, with their age, state, domicile, position on board, wages and advance received, and also the names, nationality, and destination of the passengers if there be any.

Third. The contract entered into with the crew before the competent authority for the voyage they are making or are about to undertake, in which should be set forth in distinct terms and in a manner to preclude all doubt, the advance received or the amount of wages assigned and the daily ration to which each man shall be entitled. One of the crew lists will be kept filed in the office and the other, together with the clearance and contract, will be returned to the master with the signature of approval of the maritime authority.

If the vessel should be under a foreign flag, the master will present, in addition to the customary clearance a crew list which is to be kept filed, signed by the consular agent of his nation, or in his absence by the maritime authority.

HOURS WHEN THE PORTS WILL BE OPENED AND CLOSED.

ART. 45. The ports of the Republic will be opened at 5 a. m. from the 15th of April till the 14th of October, and at 4 a. m. from the 15th of October till the 14th of April, inclusive; and they will be closed always at 9 p. m., except in the case of urgency or need of assistance or that due leave is previously obtained from the maritime authority.

In the Magellan territory the ports will be closed at 10 p. m. during the months of November, December, and January.

PLACE ASSIGNED TO SMALL CRAFT.

ART. 46. Neither by day nor by night must any of the boats belonging to men-of-war or merchant vessels, or those appropriated to the transport of freight or passengers, remain fastened to or alongside of the mole, and all that come alongside may remain only for the length of time necessary to embark or disembark the persons or effects they may carry; those having to wait will do so at a suitable distance in order not to hinder the freedom of traffic. Owners of boats disobeying these directions will pay a fine of $2 for every time unless they belong to a war vessel, in which case the maritime authority will proceed as he may judge convenient.

All boats, steamboats as well as rowboats, more than 11 metres long are forbidden to come alongside the passenger mole under the penalty of a fine of 10 pesos.

ART. 47. After sunset all craft for traffic must take the mooring place assigned them beforehand by the maritime authority.

The craft destined to the service of the freight launches may remain until these return to their mooring place.

REGISTRATION OF SMALL CRAFT.

ART. 48. All small craft employed in the interior traffic of the ports, steam tugs, water carriers, and those destined for any industry, must be registered at the respective maritime office in the first fortnight of January of every year. Said craft must carry the registered number and a distinctive mark in the following form:

Steamboats must carry on both sides of their stem their distinctive name of 15 centimetres deep and on their stern the name of the proprietor or company.

The launches and boats destined to their service will carry the registered number in the center of the stern and the initial letter of the proprietor's surname on both sides of the stem.

The whaleboats will carry it on both sides of the stem and stern port.

The rest of the small craft will carry the number on the port and starboard side of the stem and the initial of the proprietor's surname in the center of the stern.

The numbers and letters are to be painted white upon a black ground, 30 centimetres deep on launches, 20 centimetres on whaleboats, and 15 centimetres on small boats, with a distance of 25 centimetres from the gunwale to the center of the number and of 35 centimetres from the stem.

TRAFFIC IN EXTRAORDINARY HOURS OR OUTSIDE THE LIMITS OF THE BAY.

ART. 49. No boat belonging to merchant vessels nor any shore boat may go outside the limits of the bay without a written permit from the maritime authority and the chief of the preventive service.

Offenders against this article will incur a fine of from 20 to 100 pesos.

ART. 50. The maritime authorities will duly inform the commandants of the respective preventive services of the licenses they have conceded to traffic in the ports at extraordinary hours or to land passengers on any part of the coast other than the principal mole.

FISHING.

ART. 51. All boats are forbidden to fish among the vessels lying in port and still more so to trade with them without a written permit from the maritime authority and the chief of the preventive service.

ART. 52. Fishing with dynamite and other explosive substances is strictly forbidden in the ports and on the coast of the Republic.

ART. 53. In the territorial sea fishing is only allowed to Chilians and settled foreigners; but in the seas and rivers of public use fishing is free.

The maritime authorities will watch over the fulfillment of the fishery regulations dictated by the department of industry and public works.

MOORING BUOYS.

ART. 54. No buoys can be anchored or established in the bay without permission of the commandant in chief of marine, acting on the report of the maritime authority. In that case the operation will be performed under the superintendence of the latter in order to comply with the dispositions dictated with respect to this matter.

The maritime authority will cause the buoys to be anchored by a pilot or the operation to be performed under his superintendence, and will designate the place where and the form in which they are to be established, as also the number or letter they are to be marked with. Anyone establishing or removing buoys from one place to another in contravention to this disposition will incur a fine of from 50 to 100 pesos.

ART. 55. The owners of buoys must have them painted of the color the maritime authority may designate.

They must also take them up every 2 years in order to ascertain the security of their shackles, giving previous notice to the maritime authority, who will give a certificate of its having been effected.

They are likewise to take care that the buoys do not float beneath the surface of the water. Those who will not improve them when requested by the maritime authority will incur a fine of 25 pesos besides the expenses that may be occasioned in carrying out what has been ordered.

ART. 56. In every maritime office will be kept a book, destined for the register of the mooring buoys, in which will be noted their number or distinctive mark, color, class, date of their being anchored or established, situation in the bay, date of their being taken up, the name of the owner, and observations.

To the first class belong the mooring buoys distined to ships of 200 tons and upward; to the second class those destined to ships of less than 200 tons; to the third, those for the use of steam tugs and water vessels, and to the fourth class those for launches and boats.

ANCHORS, CHAINS, OR ARTICLES ABANDONED.

ART. 57. When in the hurry of departure or from any other cause a vessel shall leave in the anchoring ground any of her anchors or chains, her owner or consignee must have them taken up within the next 24 hours, under the penalty of a fine of 25 pesos, besides the expenses incurred in so doing.

ART. 58. If in the case of the preceding article the maritime authority should have to cause the anchors or chains to be taken up, the said authority will give notice to the administrative authority in order for action to be taken in accordance with the prescriptions of articles 629 and following of the civil code.* If the owner comes forward and claims the article before it has been sold at public auction, it will be restored to him, on payment of the expenses, fine, and the cost of advertisement, fixed by the maritime authority or, in case of dispute, by the commercial court.

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*Civil code:

ART. 629. If any kind of implement, apparently lost, should be found, it must be restored to its owner; and if nobody should come forward proving his claim, it is to be delivered to the competent authority, who will give notice of the thing found in a newspaper of the department, if there be any, and in bills posted up in public resorts in three of the most frequented places of the same.

This notice will state the class and quality of the article, and the date and the place where it has been found.

If the owner should not come forward and claim it, this notice will be published three times, at intervals of 30 days.

ART. 630. If within the course of the year following on the last publication no-

ART. 59. All anchors, chains, boats, or other property found at the bottom of the bay or floating in the harbor or along the coast, must be immediately delivered to the maritime authority, who will communicate the fact to the administrative authority for the purposes of the preceding article. Any one infringing this article will be subject to the penalties established in article 631 of the Civil Code.

ARMS PROHIBITED AT LANDING.

ART. 60. Crews of vessels, either national or foreign, are forbidden to come on shore with pointed knives, daggers, swordcanes or firearms; offenders will incur the penalty established in article 694 of the Penal Code.*

DESERTING SAILORS.

ART. 61. The master of a ship, either national or foreign, or the owner of a small craft, receiving on board any deserting sailor will incur the penalty of a fine of from 25 to 100 pesos.

ACTS OF DISOBEDIENCE WITHOUT EXPRESSED PENALTIES.

ART. 62. Every infraction of the articles of these regulations for which there is no special penalty assigned, and every disobedience to the orders of the maritime authorities when in the performance of their duty, will subject the offender to a discretionary fine to be applied by the said functionary, which fine is not to exceed 100 pesos.

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body should claim the article, it will be sold at public auction. From the proceeds will be deducted the expenses of seizure, preservation, etc., and the residue will be divided in equal parts between the finder and the municipality of the department.

ART. 631. Anyone omitting the performance of the obligations here expressed will lose his share in favor of the municipality and even be liable to be sued for injury and, according to circumstances, to the penalty for theft.

ART. 632. If the owner shall come forward before the public sale of the article has been effected, it will be restored to him on payment of the expenses and what under the title of salvage money may be adjudicated by the competent authority to the person who found the article and gave notice of it.

If the owner shall have offered a reward to the finder, the latter may choose between the salvage money and the reward offered.

ART. 633. Once sold at public auction the article is to be considered irrevocably lost to its owner.

ART. 634. If the article be corruptible or its custody and preservation expensive, the public sale may be anticipated, and the owner coming forward within the course of the year following to the last publication will have a claim to the sale price, deducting, as already indicated, the expenses and salvage money.

ART. 635. If any ship should be wrecked on the coast of the Republic, or if the sea should throw on shore fragments of the ship or effects, belonging, apparently, to the furniture or cargo of a ship, any person seeing it or having knowledge of it will give notice of the fact to the competent authority, securing meanwhile the effects they have been able to save in order to restore them to the person who has a title to them.

Anyone appropriating them to himself will be liable to being sued for injury, and to the penalty for theft.

ART. 636. The articles saved from a shipwreck will be restored by the authority to their owner, on payment of the expenses and salvage money.

ART. 637. If nobody comes forward to claim the articles saved, the publication of the respective advertisement will be made three times in newspapers and bills to be posted up, at intervals of 6 months; and for the rest the procedure will be according to dispositions of article 629 and following.

ART. 638. The competent authority will, according to circumstances, fix the salvage money, which is never to exceed half of the value of the articles.

But in case the saving of the articles is effected by the orders and under the direction of the public authority, these will be restored to the party interested on payment of the expenses, without salvage money.

ART. 639. All the provisions of article 635 and following are to be understood without any prejudice to what may be stipulated respecting this matter with foreign powers, and to the fiscal regulations for the storing and importation of the articles.

* Prison from its least to its middle degree or a fine of from 10 to 100 pesos.

PENALTIES.

ART. 63. A third part of the fines levied for breaches of the present regulations will accrue to the denunciator, who has to give notice of the fact to the civil and maritime authorities. However, the fines can be commuted to imprisonment at the rate of one day for every peso and 50 centavos.

ART. 64. The consignees will be held responsible for the immediate payment of the fines for breaches of the present regulations incurred by ships when leaving the ports.

ART. 65. All fines levied for the breaches of the present regulations, except those specified in articles 42, 43, and 61, which will be paid to the national treasury, will be applied by the local authorities to the marine hospital, and in default to the charitable establishments.

NOTIFICATION OF THE REGULATIONS.

ART. 66. The maritime authorities will deliver to vessels entering port a copy of the present regulations, if the master does not have it at the time of their visit, demanding the receipt in the book kept for the purpose.

ART. 67. In the office of the maritime authority will be posted a copy of the present regulations on its respective board.

ABROGATION OF REGULATIONS AND PROMULGATION OF OTHERS.

Final article. The regulations enacted up to the present time for the maritime governments, Coquimbo, Valparaiso, Concepcion, Valdivia, Chiloé, and Llanquihue, and the general regulations of maritime police decreed on the 1st of August, 1870, are annulled, while the provisions of treatise V, title VII, of the general regulation for the navy, which treat of the general police of the ports, remain in full force and vigor, as far as relates to the duties of the captains of the port, the present regulations taking effect as an addition to said title and treatise, in accordance with the provisions of article 185 of the same.

To be recorded, communicated, published, and translated into French, English, and German.

BALMACEDA.
M. GARCÍA DE LA HUERTA.

COQUIMBO.

REPORT BY CONSUL GRIERSON.

PILOTAGE

Is not compulsory for any vessel at any port in this province, but as the pilot has a better local knowledge of the port, it is both more convenient and politic to employ him, as all vessels (other than coasting steamers under itinerary) having cargo to load or discharge have to be properly moored in tiers as arranged by pilot, and he having all appliances for mooring, much trouble is saved.

The charges for pilotage are $5, Chilian currency, for vessels to 100 tons, and $2 each 100 tons over to $2,000 and over, besides charging for mooring launch boat, if required.

LIGHT DUES AND LIGHT-HOUSES.

There are no light dues charged.

Light-house on outer points, latitude 29° 56′ 15″ S., longitude 71° 21′ 05″ W. of Greenwich. Lighted June 1, 1868. Bright light, 20 seconds dull, 20 seconds bright; visible 12 miles. Fourth order, 30 metres above sea, 8 metres above ground; square white tower over keeper's house; balustrade black, cupola green.

TONNAGE DUES.

Vessels on itinerary time; captain of port's fee, $1; other vessels, $2.

All coasting vessels have to be examined every six months by the maritime authorities to see if they are in good order and condition, and receive a certificate to that effect, which must be placed on some place on board to be seen. The fee for examination is 10 cents to first 100 tons, 4 cents to 200 tons, 3 cents to 400 tons, 2 cents to 600 tons, and 1 cent per ton for every ton over the 600 tons.

QUARANTINE.

Vessels arriving with any contagious or infectious disease on board are examined by Government medical officer, and, if required, the vessel is anchored off at a safe distance and attended by said officer and the usual procedure gone through, and the vessel is detained until all is well on board.

HOSPITAL DUES.

Hospital dues, 10 cents per ton, payable by every vessel once in each year, from December to January. This clears for every port in Chili between above times, even if vessel were to trade to foreign ports and returning as often as required.

CUSTOMS DUES.

Every time on entering, article being written on stamped paper, as follows:

Fianza or certificate of responsibility	$1.00
Entering and presenting manifest	1.00
Advising, discharging or loading, and certificate of tonnage	1.00
Permission to discharge	.20
Asking permission to leave	.20
Total	3.40

J. GRIERSON,
Consul.

UNITED STATES CONSULATE, COQUIMBO,
September 5, 1889.

TALCAHUANO.

REPORT BY CONSUL VAN INGEN.

LIGHTS.

The lights are: One on Quiriquina Island, at the entrance to Concepcion Bay; catadioptic, fourth order, white light, revolving every 30 seconds, and duration of light 9 seconds; visible at 15 miles; latitude 36° 36′ 18″ S.; longitude 73° 6′ 5″ W. of Greenwich (Fitzroy's chart); the light is 65 metres above sea level. One light on Santa Maria Island, first order; white light, varied by eclipses once a minute; duration of eclipse, 45 seconds; duration of light, 15 seconds; 78.6 metres above sea level; visible from all parts of horizon; situated 36° 59′ 7″ south latitude, and 73° 32′ 30″ west longitude. One light in Lota,

about 30 miles distant, southeast of Santa Maria light, and bearing from the latter S. 70° E. One light in Corral, near Valdivia, of sixth order. One light of first order on Calera Point, about 18 miles south of Corral. One light at Ancud, of fourth order, and one light at Sandy Point, of sixth order.

TONNAGE DUES.

By the law of September 15, 1865, are charged all vessels, Chili and foreign alike, at the rate of 10 cents (currency) per ton register for one year, counted from January 1 to December 31, whether in ballast or loaded, excepting men-of-war and whaling vessels, which are free.

There are no vessels of any nation privileged in any manner by law.

QUARANTINE.

Vessels from an infected port, or without a bill of health, are liable to be put in quarantine. Any disease considered contagious by the health commissioner is quarantined. Vessels are kept in quarantine until the Government authorizes communication, when pronounced free of contagion. No particular time is specified, but I may say from experience that the matter is usually regulated in a reasonable manner, as the Government is governed by the health commissioner's report.

The expenses incurred are not allowed for by the state, hence vessels have to bear charges; but in case of landing of passengers, etc., on Chilian territory, presume the authorities would provide for a case of this kind. Heretofore infected persons have not been allowed to land, excepting smallpox patients. Quarantine rules, so far as there are any, are established by Chilian Government and in no case by municipal authority.

J. F. VAN INGEN,
Consul.

UNITED STATES CONSULATE,
Talcahuano, August 23, 1889.

DUTCH GUIANA.

REPORT BY CONSUL BROWNE, OF PARAMARIBO.

PILOTAGE.

Pilotage is not compulsory in this colony for vessels of any nation; it is left to the master of the vessel to employ a pilot or not, just as he thinks proper; if he considers he can pilot his own vessel, he is at liberty to do so.

Pilot charges are the same for vessels of this colony as for foreign vessels. The charges are as follows: For a vessel of 10 feet draft, 10 florins ($4); and for every foot or part of a foot more than 10 feet draft, 5 florins ($2).

No foreign flag enjoys special privileges.

LIGHTS AND LIGHT DUES.

Light dues are payable only at one port during the same voyage. They are payable whether there is a light or not; the general character of the light is white; the altitude of the light is 30 feet; the light is visible at a distance of 8 miles.

Light dues are collected through the custom-house and are as follows:

For ships of 100 tons register or less, 5 florins ($2); and for ships of more than 100 tons register, 10 florins ($4).

I might add that American vessels enjoy the same privileges as vessels of other nations.

Free from light dues are, ships carrying immigrants or coming in the harbor to carry immigrants to their own country; ships in the service of the colonial government and foreign war ships.

In addition to the above-mentioned vessels is the Dutch direct line of steamers, which, according to private contract between this government and the steamship company, are free for a term of 25 years from light dues and all other port charges.

TONNAGE DUES.

The tonnage dues have been entirely removed since the year 1887.

QUARANTINE.

Every ship arriving in the colony or laying there after arrival is subjected to quarantine.

When coming from or having touched during her voyage a country or place affected by a contagious disease, or a disease declared to be contagious, the duration of each quarantine in common cases is 21 days.

Vessels coming from other countries may not have any connection with the shore or other vessels before the doctor who is specially appointed for quarantine purposes by the colonial government first visits the ship and pronounces her clean and free from disease.

As long as a ship is laying in quarantine she has to carry a yellow flag on top of mast.

The governor has the right to allow dispensation of quarantine to ships carrying mails.

The diseases quarantined are, yellow fever, pest, Asiatic cholera, smallpox, typhus, typhoid fever, diphtheria, and scarlet fever. The governor has furthermore the power to quarantine other than the above-mentioned diseases, such as measles, dysentery, etc.

Expenses of detention are borne by the ship, and of fumigation as to passengers and cargo by the colonial government.

The colonial government has full power in all matters connected with quarantine rules in this colony.

THOMAS BROWNE,
Consul.

UNITED STATES CONSULATE,
Paramaribo, September 4, 1889.

PERU.

REPORT BY CONSUL BRENT, OF CALLAO.

PILOTAGE.

Pilotage is not compulsory in the ports of Peru. No vessels, war or others, pay pilotage.

LIGHT DUES.

Light dues are 1¼ cents per register ton every time a vessel enters the port.

TONNAGE DUES.

All vessels pay 20 cents silver per registered ton for tonnage dues once every 6 months. There is no discrimination.

Quarantine rules have always been reported to the Department.

QUARANTINE.

There was a quarantine congress of the South American Republics held last year at Lima, but no governmental decision has been reached. Quarantine lasts during the prevalence of the disease. The ships bear all expenses. Quarantine rules are established by Government by the board of health appointed by Government.

H. M. BRENT,
Consul.

UNITED STATES CONSULATE.
Callao, August 21, 1889.

REPUBLIC OF COLOMBIA.

CARTHAGENA.

REPORT BY CONSUL MACMASTER.

PILOTAGE.

Pilotage is not compulsory in any case. If a vessel elects to take a pilot the charges are the same for vessels of all nationalities, even in distress. When foreign war vessels take a pilot, it is customary (not obligatory) to present the pilot a $5 or $10 gold piece.

For a pilot taken at Boca Chica the charge is:

Pilot boat or schooner	$2.00
Brigantine	3.00
Three-masted sailing vessel	4.00
Steamer	5.00

If the pilot is taken outside the bay, rates are double. If taken to change anchorage (inside), rates are one-half. Pilotage out is same as pilotage in. Pilotage is due before the pilot leaves the vessel, but the custom is for the vessel's agent to pay the pilotage later.

LIGHTS AND LIGHT DUES.

Light dues are paid on the capacity (registered tonnage) of the vessel, steam or sail, laden or in ballast, and whether paid in other Colombian ports during the same voyage or not. Light dues for this port are, all foreign merchant vessels, $5 on first 100 tons, and 2½ cents per ton on rest of capacity. Colombian vessels pay one-half these rates.

These dues are paid through the custom-house by the vessel's agent.

Colombian vessels passing inside the islands pay no light dues.

Foreign merchant vessels coming from Savanilla here, or going from here to Savanilla, are expected to pay 1½ cents per ton capacity as light dues for the light on Galera Zamba Island (in addition to the light dues of Carthagena and Savanilla). Colombian vessels pay one-half these rates; foreign war vessels pay no light dues; no other discrimination.

La Merced Light, situated inside city walls, on tower built on the confiscated convent, latitude 10° 25′ 42″ N., longitude 75° 33′ 45″ W. (Greenwich). Elevated 106 feet above sea. Revolving, white, flash every 15 seconds.. Visible 20 miles in clear weather. Bearings, from outside anchorage (off Santo Domingo gate) E. by N. (true), distant about 2 miles. In coming from the northward the light should not be brought to the southward of S. by E. ½ E. (true) until past Point Canvas; and from the westward the light should be brought to the northward of E. (true) to clear the Salmedina Bank to the northward of it. (December, 1881.)

Boca Chica Light, fixed, white. Situated on tower built in east angle of the castle of San Fernando (entrance to bay). Altitude, 60 feet above sea level. Visible in clear weather 12 miles. Tower is 20 feet square at base, 16 at top; five stories high. (December, 1885.)

Galera Zamba Light, island of Galera Zamba, north coast of Colombia. Situated in latitude 10° 41′ N., longitude 75° 20′ W. Revolving; flashes white and green alternately once every minute. Can be seen in clear weather 20 miles distant between the points NNE. by the west to WSW. From this light-house Point Canvas bears SW. ¾ W., distant 12⅝ miles; Island Arenas bears NNW. ¼ W., distant 4 miles; Island Cascajal bears W. ¼ N., 4 miles. All bearings are magnetic. To avoid the numerous banks and shoals formed by destruction of Island Corriente, navigators must not come too much inside the cove formed by Point Canvas and the island Arena. (February, 1888.)

Buoy on Galera Zamba Shoal: Red buoy on southern and western extreme, in 5 fathoms, latitude 10° 45′ 30″ N., longitude 75° 26′ 45″ W. From this buoy Cerro del Piojon bears S. 84° E. (true); Point Canvas 13° W. (true).

This buoy should not be brought W. of S. (true) until 2 miles north of it.

Red buoy on west end of Salmedina Bank in 6 fathoms of water, latitude 10° 23′ N., longitude 70° 42′ W. From this buoy La Popa bears N. 77° (true); Boca Chica S. 56° E. (true); Point Canvas N. 43 E. (true).

Harbor buoys: Playa de la Saltona, Castle San Fernando, Carey, Creek of Lora, Point Arenas, one black; channel of Manzanilla, channel of Castillo Grande, two black; Point Abanico, Castle San José, one red; La Corona, La Cruz, two red; Bocandé, channel of Manzanilla, channel of Castillo Grande, one red.

Entering at Boca Chica and coming up the bay the red buoys should be kept on the starboard, the black buoys on the port side.

TONNAGE DUES.

All sea-going vessels pay $1 per ton for all cargo discharged here. If no cargo is discharged, no tonnage dues are paid. Regular steamers, under contract with the Colombian Government to carry the mails, pay no tonnage dues. War vessels pay no tonnage dues. No other discrimination.

Dues and charges are payable in Colombian currency; $1 of which sells now for 50 cents American gold.

QUARANTINE.

There is no regularly established quarantine, but the authorities may quarantine any vessel coming from a port where contagious or infectious disease is known to exist.

W. B. MACMASTER,
Consul.

UNITED STATES CONSULATE,
Carthagena, August 8, 1889.

COLON.

REPORT BY CONSUL VIFQUAIN.

The Colombian law under which the Panama Railroad holds its charter grants to it the mastery of the harbor of Colon in every respect, with the exception of sovereignty, The Panama Railroad owns the docks, which, of course, it had to build, and keeps them in repair; owns the light-house, which it also built; and it collects all tolls for wharfage, light-house dues, and others, accordingly.

PILOTAGE.

Pilotage is not compulsory at this port. Native or foreign vessels come in and go out with or without pilots just as they please. In case any vessel wants a pilot, such fees are paid as may be agreed upon between master and pilot. There is no regularly licensed or government or railroad pilot at this port, but some of the chief stevedores well acquainted with the harbor sometimes act as pilots. Vessels in distress, or men-of-war, are treated like other vessels. It is very seldom that a boat is piloted in; more frequently, however, sailing vessels are tugged in, and then, of course, the captain of the tug is truly the pilot.

Hence the towage charges—the tug is a Panama Railroad steamer and no other steamer is allowed to tow—are in some sense pilot charges.

The rates for towage are as follows:

[American money.]

Vessels from—.	Inward.*	Outward.†
100 to 300 tons	$18.00	$25.00
300 to 600 tons	25.00	40.00
600 to 900 tons	35.00	57.00
900 to 1,200 tons	45.00	72.00

*For higher tonnage the rate is to be settled with the general superintendent of the Panama Railroad Company.

†For higher tonnage the rate is to be fixed as for the inward towage.

LIGHTS AND LIGHT DUES.

Light-house dues are charged to all vessels, whether steam or sail, laden or in ballast, excepting vessels of 6 tons or less. There is but one regular port in this consular district, and it is Colon.

The light-house here is a fixed light, white, French, of the third class, 75 feet high, visible 10 miles, and is, so I am told by our naval officers, the best fixed as to longitude and latitude of all light-houses.

The rates for light-house dues are as follows:

Sailing vessels—	
of 100 tons	$1.00
over 100 tons and under 200	3.00
over 200 tons and under 300	5.00
over 300 tons	7.00
All steamers	7.00

Small vessels with or without decks, not exceeding 6 tons, and engaged in the coasting trade are not charged light dues. Vessels flying the Colombian flag and duly registered are charged only one-half the established light dues. Outside of this there is no discrimination in favor or against the vessels of any flag.

To men-of-war of all nations, as also to ships in distress, the courtesies of the port are extended and no charges made for light dues. The railroad company, through its harbor office, collects its own light-house dues.

TONNAGE DUES.

No tonnage dues are paid at this port.

QUARANTINE.

There are no quarantine regulations here. However, vessels coming from ports where cholera and smallpox prevail, are kept at arm's length by the local authorities, to the best of their ability, and this does not mean much, for there is really no conception of what a real quarantine is among these people.

If the state or municipality established quarantine rules the General Government could take charge and supersede the former.

VICTOR VIFQUAIN,
Consul.

UNITED STATES CONSULATE,
Colon, July 31, 1889.

[Inclosure in Consul Vifquain's report.]

COLON, *July* 1, 1888.

Harbor regulations established by the Panama Railroad Company.

1. All vessels entering the harbor of Aspinwall will be charged light fees, and all vessels coming to wharf will be charged wharfage in proportion to tonnage, as per printed rates of the Panama Railroad Company, except that small vessels, with or without decks, not exceeding 6 tons, and engaged in the coasting trade, will not be charged any light fees or wharfage; and except also that vessels flying the Colombian flag, duly registered, will be charged only one-half the established light fees.

2. No vessel will be allowed to hang at the outer buoys, as they are to be used solely for convenience in hauling in and out and making sail.

3. Vessels entering the harbor will anchor outside of the line of buoys and there remain until assigned berths by the railroad company. All vessels after discharging will also anchor outside the buoys.

4. No iron chains are allowed to be used in making fast to the wharves, unless by express permission from the railroad company, and vessels will be held liable for any damage done to the wharves, by unnecessary chafing, neglect, etc.

5. No coals, ashes, offal, or rubbish are to be thrown overboard by vessels at anchor in the harbor or at the wharves.

6. Masters of vessels will be governed by the directions of the railroad company in changing berths, hauling to buoys, anchoring in any part of the harbor, etc., and are requested to notify them when wishing to haul, and also to give them at least 6 hours' notice before leaving port.

7. All vessels to show a light in some conspicuous part of the vessel while at anchor in the harbor at night.

8. Any vessel arriving at this port with gunpowder or other explosives on board will not be admitted to wharf or allowed to land the same until a report is made to the railroad company and an arrangement entered into for its immediate disposal.

9. To satisfy the railroad company that a vessel is Colombian, the captain will present as proof a certificate given by the proper custom-house officer who has issued the register.

Rates of wharfage and light fees.

WHARFAGE.

	Per day.
All steamers	$15.00
Vessels under 50 tons (except those exempted under article 1)	.75
Vessels over—	
50 tons and under 100	1.50
100 tons and under 150	2.25
150 tons and under 200	2.50
200 tons and under 250	3.00
250 tons and under 300	3.25
300 tons and under 350	3.50
350 tons and under 400	3.75
400 tons and under 450	4.00
450 tons and under 500	4.25
500 tons and under 550	4.50
550 tons and under 600	4.75
600 tons and under 650	5.00
650 tons and under 700	5.25
700 tons and under 750	5.50
750 tons and under 800	5.75
800 tons and under 850	6.00
850 tons and under 900	6.25
900 tons and under 950	6.50
950 tons and under 1,000	6.75
1,000 tons	7.00

And 25 cents per day for each additional 50 tons.

LIGHT FEES.

	Each.
Vessels under 100 tons (except as modified by article 1)	$1.00
Vessels over—	
100 tons and under 200	3.00
200 tons and under 300	5.00
300	7.00

Approved by the executive power at Bogota, January 29 and July 14, 1883, and published in Diario Oficial, Nos. 5635 and 5782, dated respectively February 27 and July 26, 1883

A. L. RIVES,
General Superintendent.

PANAMA.

REPORT BY CONSUL GENERAL ADAMSON.

PILOTAGE.

Pilotage is not compulsory at this port for vessels of any nationality. In fact there are no pilots at the port of Panama, and consequently no pilot charges and no special privileges.

LIGHTS AND LIGHT DUES.

Light dues are not collected at this port, as there is no light-house in the Gulf of Panama or on its shores, or in fact, so far as I can discover, on the west coast of Colombia.

TONNAGE DUES.

Tonnage dues are not collected at the port of Panama from vessels of any class or nationality, whether in the foreign or the coasting trade, laden or in ballast.

QUARANTINE.

There are no permanent rules as to quarantine at this port. When cholera was epidemic in Chili, no vessel coming from that country was permitted to come to Panama. During that period all vessels coming to this port were met by an armed vessel of the Government and brought to anchor off Taboguilla, about 10 miles down the bay. There they were examined, and if there were any cases of sickness on board, they were detained until the nature thereof was shown. If there was no disease on board and had been none during the voyage, they were allowed to come up to the port.

Since I have been here, say 6 years, the only disease against which quarantine has been declared was cholera, but no doubt if smallpox had prevailed on the west coast of America, strict precautions would have been taken.

I have not known of any quarantine for vessels from ports infected with yellow fever, so far as Panama is concerned.

During the prevalence of cholera in Chili, the quarantine rules were made by the General Government, which has supreme power in Colombia. I believe that any expense caused by detention or fumigation would have to be borne by the ship.

THOMAS ADAMSON,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Panama, August 2, 1890.

VENEZUELA.

LAGUAYRA.

REPORT BY CONSUL BIRD.

PILOTAGE.

There is no port along the Venezuelan coast, except that of Maracaibo, where pilots are taken or pilotage paid.

LIGHT DUES.

There is a fixed white light of ordinary brilliancy shown from the castle overlooking the city of La Guayra, about 400 feet above the level of the sea and visible about 15 miles. No light dues are collected. At an open roadstead like this, with such a bold coast and deep shore lines, the utility of any light is questionable.

TONNAGE DUES.

These dues are collected on foreign vessels only, whether laden or in ballast; there is no discrimination in regard to flag, and vessels of no particular nationality enjoy any special privileges.

QUARANTINE.

There are no special rules in reference to quarantine, the subject being left to the discretion of the health officer under the direction of the board of municipal officers. This board adopts measures suited to any particular case, as need or occasion may require. Quarantine is strictly enforced against cholera, yellow fever, and smallpox. The expense of fumigation is borne by the city, but the losses by detention are at the cost of the vessel. The General Government may, at any time, interfere in the matter and prescribe its own special regulations, though such action is rare-

The new breakwater at this port will probably be completed during the year 1890, and new harbor regulations established, when all pertinent information on the subject will be opportunely communicated to the Department of State.

WINFIELD S. BIRD,
Consul.

UNITED STATES CONSULATE,
Laguayra, October 5, 1889.

MARACAIBO.

REPORT BY CONSUL PLUMACHER.

PILOTAGE.

Pilotage is compulsory in all cases for vessels under the Venezuelan flag as well as for foreign vessels, none enjoying special privileges in this regard. Vessels in distress as well as foreign war vessels pay pilotage.

LIGHT DUES.

There are no light-houses on the coast of this consular district, consequently no dues can be collected.

TONNAGE DUES.

All vessels must pay for incoming pilotage as well as for outgoing one-half bolivar a ton, equal to 10 cents American money, making in all 20 cents per ton on each vessel. All vessels bound for Maracaibo or the lake ports can sail up to Maracaibo over the outer bar at Fort San Carlos as well as over the inner bar called the Tablazo, but all outgoing vessels from Maracaibo must take the tugboat stationed at Bajo Seco, at the Fort San Carlos, to be towed out over the outer bar (steamers of course excepted), paying 4 bolivars or 80 cents American money per ton for towage. Outside of these heavy charges all vessels must pay a buoyage tax amounting to 2 bolivars 50 centavas (50 cents American) per ton.

Steamers pay only the pilot dues and buoyage dues, but as the latter are so very high (a steamer of 1,000 tons will have to pay $500 for every trip if no private arrangements are made with the contractor of the enterprise) many vessels which would be willing to come here avoid the place. Every vessel has also to pay a tax of 10 cents on every 50 kilogrammes of outgoing cargo.

According to contract, the tugboat company should keep two steamers ready at the bar, but never has more than one, and even this is often sent on commission by the Government, leaving the vessels at Bajo Seco often for weeks without an opportunity to go to sea.

QUARANTINE.

Rules as to quarantine do not exist. Only against smallpox, cholera, and plague quarantine is taken, as yellow fever is endemic at this port and all other ports of Venezuela.

Duration of quarantine may be from 5 to 21 days.

All expenses of detention and fumigation are charged to the vessel; nothing is paid by the General Government or by the State or municipality. The State, by the board of health of Maracaibo, takes charge of vessels in coöperation with the consul of the nation under whose flag the vessel sails.

E. H. PLUMACHER,
Consul.

UNITED STATES CONSULATE,
Maracaibo, September 1, 1889.

PUERTO CABELLO.

REPORT BY CONSUL DE BLANC.

PILOTAGE.

Pilotage is not obligatory either for national or foreign vessels. No vessel is required to accept the services of the pilot licensed by the authorities, but in case his services are needed he is authorized to collect from the vessel employing him, whether national or foreign, the sum of 40 bolivars, equal to $7.70 American gold.

No provision is made, nor any exception provided, for vessels in distress and foreign war vessels.

LIGHTS AND LIGHT DUES.

No light-house dues whatever are imposed either on national or foreign vessels.

The light-house is situated about 1 mile in front of the harbor and is called "El Faro de Punta Brava de Puerto Cabello:" Latitude 10° 28′ N., longitude 68° 7′ W. from Greenwich.

The altitude is 86 feet and the light, which is a revolving red and white light at 42 seconds' interval, is visible at the distance of 14 miles.

TONNAGE DUES.

Tonnage dues are not collected from national vessels engaged in the coasting trade; but when said vessels arrive from a foreign port they

pay the same tonnage dues as foreign vessels, whether they be laden or in ballast.

There is no discrimination in regard to flag, and no special privileges are enjoyed by any nationality. All foreign vessels, whether laden or in ballast, pay tonnage dues only once, viz, the first time they enter one of the ports of the Republic; they are exempt from that charge ever afterwards, no matter how often they may return to the country.

These tonnage dues are fixed at the sum of 40 bolivars, equal to $7.70 American gold, whether the vessel be steam or sail, and irrespective of the amount of her tonnage.

Besides these tonnage dues, which are payable only once, foreign vessels must pay, each time they visit this port, the following charges (American gold), viz:

Entry	$2.40
Port captain	2.40
Health officer	2.40
Interpreter	3.00
Clearance	1.75
Health certificate	1.92

Water, 10 cents for every ton burden up to 800; above 800 tons, free.

This charge for water is compulsory; the vessel must pay for water whether she needs it or not, and, in some cases, even when the water is not to be got. One of the steamers of the "Red D" line, running between this country and New York, had to sail from this port lately without being able to get water, because the open ditch, which leads the water of the little river San Esteban into the pipes of the city, was being cleaned out, and the work would not be completed before two or three days. The steamer nevertheless had to pay the water tax, which, in her case amounted to $80.

National vessels on the foreign trade are subject to the same charges for water; if engaged in the coasting trade the tariff is as follows:

		Cents.
From 1 to 10 tons		Free
From 11 to 25 tons	per ton	2½
From 26 to 100 tons	do	5
From 101 to 800 tons	do	10

QUARANTINE.

The rules relating to quarantine are established by the General Government through a special body called "the council of doctors of the Republic," whose duty it is to make all regulations concerning the subject.

The board of health of Puerto Cabello, called "La Junta de Sanidad," is composed of six members appointed by the President of the Republic, viz: the civil chief of the city, the parish priest, the captain of the port (who is also administrator of the custom-house), one residing physician, and two members of the city council.

It is the duty of the physician to board every vessel arriving at this port; to examine carefully the passengers and crew; to ascertain the port of departure, the ports the vessel touched at, and to obtain generally all the information he may procure from the captain as well as from other sources.

If the sanitary condition of the vessel is entirely satisfactory, he is authorized to allow her to enter the harbor; but if there be any ground of suspicion, or if the vessel come from some port where epidemical or contagious diseases are known to exist, he must call a meeting of the

Junta de Sanidad and lay the facts before them. Pending the decision of that body, he will order the vessel to remain at anchor at a certain distance from the harbor, and take due precautions to prevent all communication between the vessel and the shore.

If the facts reported by the physician do not appear to the Junta de Sanidad of extreme gravity, but only such as to warrant precautionary measures, they will order the vessel to remain at the distance aforesaid for the period of 8 days in strict quarantine. At the expiration of that time the vessel will be allowed to enter the harbor on the report of the physician that her sanitary condition is satisfactory.

But if there be sickness on board of the vessel, and such sickness, in the judgment of the Junta de Sanidad, be of an infectious or contagious nature, the vessel will be ordered to the island of Goiguaza, about 2 miles to the leeward of the city, and all communication with her will be strictly prohibited. If, during this quarantine, the vessel should need provisions, water, medicines, etc., these will be furnished to her from a boat anchored at a certain distance from her.

The duration of this quarantine is not determined by the regulations, but in no case will the vessel be permitted to enter the harbor until the sickness has entirely disappeared and the vessel, cargo, and passengers have been thoroughly fumigated.

The diseases quarantined are all such as are infectious or contagious, chiefly cholera, smallpox, and yellow fever.

The expenses of detention must be borne by the vessel; those of fumigation of passengers and cargo are paid by the municipality.

I am indebted for the above information on the subject of quarantine to Dr. Faustino Figueredo Herrera, member of the Junta de Sanidad, to whom I reiterate my thanks.

CHARLES DE BLANC,
Consul.

UNITED STATES CONSULATE,
Puerto Cabello, August 31, 1889.

WEST INDIES.

BRITISH WEST INDIES.

BAHAMAS.

REPORT BY VICE-CONSUL SAUNDERS.

PILOTAGE.

No special privileges are granted to any foreign flag. With the following exceptions pilotage is compulsory in all cases, unless the master of any such vessel exempted shall voluntarily accept the services of a pilot, viz: Vessels of war, vessels employed in the light-house service, droghers, coasters, and vessels under 30 tons registered measurement. The fees imposed are alike with regard to foreign and native vessels, steamers bearing an additional charge of £2 over and above the ordinary rates.

Vessels in distress are subject to the laws of pilotage.

In cases where a pilot offers his services to any ship or vessel, barring legal exemptions, and is refused, unless there should already be on such

vessel a licensed pilot, the master of such vessel is liable to the payment of pilotage fees as if the services of the pilot had been accepted.

Vessels leaving the port of Nassau for an outport for the purpose of taking in a cargo of fruit or salt, and return with such cargo to this port before proceeding to any place abroad, are liable to only one-half pilotage dues.

Any vessel, having no licensed pilot on board, which may follow into or out of the port of Nassau any vessel which may have a licensed pilot on board, is subject to one-half pilotage dues.

The board of pilotage, appointed annually by the governor, is composed of seven commissioners, including the chairman, who are empowered to carry into effect the pilotage laws of New Providence.

The law of pilotage as enforced at the island of Inagua, Inagua pilotage act, is similar in nearly all respects to the New Providence pilotage act. The following are the most important points of difference, viz: (1) Such vessels as may enter any harbor or anchorage at Inagua for the purpose of awaiting a night's run or fair weather and not requiring or receiving the services of a pilot, are not liable to pilotage dues; (2) vessels arriving at Inagua to procure seamen are liable for only one-half pilotage dues; and (3) fees are charged according to registered tonnage of a vessel.

There is a local board of pilotage at Inagua which, in like manner to that at Nassau, is empowered to enforce the pilotage laws of Inagua.

The Inagua pilotage act extends also to the following islands of the colony: Long Cay, Long Island, Rum Cay, Ragged Island and Exuma.

The other islands of the colony, Abaco, Andros, Grand Bahama, Birninis, Berry Islands, Eleuthera and San Salvador do not come under the jurisdiction of any pilotage act. Pilotage, therefore, at any of those islands is not compulsory, and there being no licensed pilots thereat, the act of accepting the services of a pilot must be voluntary on the part of a master of any vessel.

The following are the pilotage charges for the islands:

THE HARBORS AND ANCHORAGES OF NEW PROVIDENCE.

For Nassau Harbor Salt Cay, and Hanover Sound anchorages—

	£	s.	d.
8 feet and under	1	1	0
9 feet and under	1	5	0
10 feet and under	1	9	0
11 feet and under	1	13	0
12 feet and under	2	2	0
12½ feet	2	5	6
13 feet	2	10	0
13½ feet	2	13	0
14 feet	2	15	0
14½ feet	2	17	0
15 feet	3	2	0
15½ feet	3	10	0
16 feet	4	0	0
16½ feet	4	10	0
17 feet	5	0	0
17½ feet	5	5	0
18 feet	5	10	0

And 5 shillings additional for every half-foot above 18 feet, with an additional fee of £2 on the pilotage of all steamers.

For Cochrane's anchorage and Southwest Bay anchorage one-fourth in addition to the above rates.

Vessels under 30 tons exempted from pilotage fees unless the masters of such vessels should voluntarily accept the services of a pilot.

A moiety of pilotage payable when vessels are anchored outside of the bar of Nassau Harbor.

Vessels having center boards and using same, one-eighth in addition to above rates.

[Under Act 13 Vic., cap. 1, sec. 1.]

INAGUA.

	£	s.	d.
Vessels of 30 and not over 50 tons' burden		8	0
Vessels over—			
50 and not over 75 tons' burden		10	0
75 and not over 100 tons' burden		12	0
100 and not over 150 tons' burden		15	0
150 and not over 200 tons' burden	1	0	0
200 and not over 250 tons' burden	1	5	0
250 and not over 300 tons' burden	1	10	0

And for every 20 tons over 300 tons at the rate of 1 shilling.

Double the above rates for piloting vessels into Alboy's Hole, Alfred Sound, and Man-of-War Cay anchorages.

RUM CAY.

	£	s.	d.
Vessels of—			
30 tons' burden and not over 50 tons		9	0
50 tons' burden and not over 75 tons		11	0
75 tons' burden and not over 100 tons		13	0
100 tons' burden and not over 150 tons		16	0
150 tons' burden and not over 200 tons	1	2	0
200 tons' burden and not over 250 tons	1	6	0
250 tons' burden and not over 300 tons	1	11	0

And for every 20 tons over 300 tons at the rate of 1 shilling.

CROOKED ISLAND.

	£	s.	d.
Vessels of 30 and not over 50 tons' burden		8	0
Vessels over—			
50 and not over 75 tons' burden		10	0
75 and not over 100 tons' burden		12	0
100 and not over 150 tons' burden		15	0
150 and not over 200 tons' burden	1	0	0
200 and not over 250 tons' burden	1	5	0
250 and not over 300 tons' burden	1	10	0

And for every 20 tons over 300 tons at the rate of 1 shilling.

LIGHTS AND LIGHT DUES.

Light dues are collected in this colony only at the port of Nassau. This for the purpose of assisting in the maintenance of the Hog Island light-house, which is the only light-house in the Bahamas supported by the local government.

The fee is imposed upon all vessels without discrimination as to nationality with the following exceptions, viz: Ships of war and vessels employed in the service of the board of trade; vessels employed under contract with the Bahamas government for the conveyance of mails; vessels belonging to the royal yacht squadron; vessels employed exclusively in turtling, sponging, or fishing; vessels engaged in pleasuring only, and vessels arriving with entire cargoes of materials for sheds, factories, and manufactories.

The fee, 3*d.* per ton, registered measurement, is collected through the custom-house, from vessels of either steam or sail, laden or in ballast.

The general character of the light at Hog Island light-house is as follows:

It is a fixed white light, at an elevation of 68 feet above the sea at high water, and in clear weather should be seen from east to north and west from a distance of 14 miles. The illuminating apparatus is dioptric, third order. The light tower is circular, of stone, painted white. It stands in latitude 25° 5′ 37″ N.; longitude 77° 22′ 22″ W. of Greenwich.

For characters of other lights of the Bahamas I would refer to pages 131 to 133 of "Guide to the Bahamas."

TONNAGE DUES.

Tonnage dues are levied upon all vessels, excepting such exceptions as are heretofore mentioned, engaged in trading without the limits of this government, and are imposed without special privileges upon foreign and native vessels and at all ports of entry in this colony.

The following are the vessels exempted from payment of tonnage dues: Vessels of war, transports, and other vessels employed solely on government service; all vessels employed under contract with the Bahamas government in the conveyance of mails; vessels exclusively engaged in turtling, sponging, or fishing; vessels employed in pleasuring only; steamers.

It will be observed that steamers are not liable to the payment of tonnage dues. This is to encourage steam communication between the islands of this colony and foreign ports.

The following are the rates of tonnage:

On vessels arriving with cargo intended to be discharged within the colony, and exceeding in measurement or weight one-half of the tonnage of the vessel, 1 shilling (24 cents) for each and every ton of the proper measurement of such vessel.

On vessels arriving wholly or only partially laden, and from which any portion of the cargo, not exceeding in measurement or weight one-half of the tonnage of the vessel, is intended to be discharged within the colony, 1*d.* for each and every ton of the ascertained tonnage of such vessel, and 1*s.* per ton measurement or weight of the goods landed from such vessel.

On vessels arriving in ballast or with cargo not intended to be discharged within the colony, 1*d.* for each and every ton of the proper measurement of the vessel.

On vessels clearing with outward cargo laden within the colony, other than salt or fruit, exceeding one-half of the ascertained tonnage of the vessel, 1*s.* for each and every ton of the proper measurement of such vessel.

On vessels clearing with outward cargo laden within the colony, other than salt or fruit, not exceeding in measurement or weight one-half of the ascertained tonnage of the vessel, and whether any portion of the inward cargo is still laden on board or not, 1*d.* for each and every ton of the proper tonnage of the vessel, and 1*s.* per ton measurement or weight of the goods so shipped or exported.

On vessels clearing in ballast, or with salt or fruit, or salt and fruit and with or without any portion of her inward cargo still laden on board, 1*d.* for each and every ton of the proper measurement of the vessel.

QUARANTINE.

Quarantine is enforced against any port or place where there may prevail yellow fever, scarlatina or scarlet fever, the plague, cholera, smallpox, or any other epidemic disease of a commonly supposed con-

tagious or infectious character; the duration of such quarantine being determined by the governor in council, according to the circumstances of the case, not being less than 2 nor exceeding 14 days.

All vessels, on board of which any person may be ill of any contagious or infectious disease or may have died of such disease within 14 days before her being placed in quarantine shall remain in quarantine until the expiration of 14 days from the day when such illness may have ceased, and from the day when such deaths may have occurred.

The only exemption from the rules of quarantine is in the case of vessels which may be employed by the government in the transmission of mails, but it is lawful for the governor, with the advice of the executive council, to make such rules from time to time for the prevention of the introduction of disease into the colony by means of any such vessel, or by persons landing from or going on board any such vessel, or by the unloading of merchandise, as the governor may deem necessary and expedient.

All expenses incurred by detention or fumigation are a charge upon the ship—no special privileges being granted to any flag—as well as all fees for medical attendance upon any sick person who may be an officer or seaman belonging to any vessel placed in quarantine; but in all other cases the charge is a personal one and may be recovered accordingly, except the party be an unemployed seaman or otherwise in a position which renders it probable that he is unable to pay the same, when the same is paid out of the public treasury.

Proper nurses and all medicines and other necessary articles are provided and furnished by the government, in respect of which a fee of 8 shillings per diem is charged against every person who may be attended as aforesaid, with the exception, as already mentioned, of unemployed or indigent seamen, when the expenses are defrayed by the government.

No person who is suffering from an infectious disease or a disease of a doubtful or suspicious character, can be landed from any of Her Majesty's ships of war bearing a medical officer, nor can any sick person be landed from any other vessel until the health officer be consulted and his sanction in writing be obtained.

No vessel can be liberated from quarantine without a certificate from the health officer.

Rules governing quarantine are established by the governor in council, by whom the board of health is superseded in nearly all matters relating to quarantine, the latter acting simply as adviser to the former.

HENRY R. SAUNDERS, Jr.,
Vice-Consul.

UNITED STATES CONSULATE,
Nassau, August 15, 1889.

BARBADOES.

REPORT BY CONSUL DIMMICK.

PILOTAGE.

Pilotage is entirely optional in all cases, and for all vessels, to whatever nationality they may belong.

The pilot charges are the same for all vessels in distress, and foreign war vessels pay pilotage like all other vessels, if they take a pilot.

Pilotage, which was permissible to any of the boatmen in port, has been lately limited by the governor of the island to three boatmen appointed for that service after due competitive examination.

I submit herewith the "Pilotage Regulations," from which you will notice that said regulations are worth virtually *nil*, as the pilots incur no responsibility whatever.

9. The following rates to be paid by the master or consignee of the vessel have been fixed for pilotage, viz:

1. Into or from Carlisle Bay:

For vessels—

Not exceeding 250 tons	$2.00
Exceeding 250 tons but not exceeding 400 tons	3.00
Exceeding 400 tons but not exceeding 600 tons	4.00
Exceeding 600 tons but not exceeding 800 tons	5.00
Exceeding 800 tons but not exceeding 1,000 tons	6.00
Exceeding 1,000 tons	7.00

Steamers same as above rates, ships of war £2 each; vessels anchoring between the hours of 7 p. m. and 6 a. m., to pay 50 per cent. additional on above rates.

2. Carlisle Bay into or from the Careenage:

For vessels—

Not exceeding 300 tons	$3.00
Exceeding 300 tons but not exceeding 600 tons	5.00
Exceeding 600 tons	8.00

3. Carlisle Bay to or from any port of the island:

Sailing vessels, steamers, and ships of war at 50 per cent. additional on the rates mentioned in subsection 1 of this rule.

10. Any pilot who shall demand or extort any larger sum for pilotage than he shall be entitled to receive under these rules shall be guilty of a breach of these rules and proceeded against by the master or consignee of the vessel or by the harbor master.

11. It shall be lawful for any pilot licensed under these rules to go alongside of any vessel arriving off this island, and if the master desires to engage him to make inquiries in accordance with section 13 of the quarantine act of 1880, as to the state of all on board, the health of the port whence she has sailed, and to demand to see the bill of health, and if there has been no sickness on board during the voyage the bill of health is clean and she has not come from an infected port, it shall be lawful for such pilot to go on board such vessel himself, and such pilot shall so soon as he proceeds on board any vessels be subject in the same manner as any member of the crew to all the quarantine laws, regulations, and penalties, and shall not quit such vessel until she has been admitted to pratique, but no one else from his boat shall have communication with the ship; and as soon as he leaves his boat it shall immediately be cast off from the vessel and shall not be allowed to communicate in any way again until the vessel has been admitted to pratique by the harbor master or his deputy.

12. When a vessel has come from a port which has been declared infected and the voyage has not been long enough (counting from the time the pilot left her) to complete the number of days quarantine against such port or when the bill of health shows the port from which she has come to be infected, or when a vessel has sickness on board, or has had sickness in board during the voyage, then the pilot shall not go on board, but shall remain in his boat, accompany the vessel to the place where she is to anchor, and give all directions just as if he were on board, and for this he shall be entitled to the same fee as if he had gone on board.

16. Any boat or boats engaged in piloting shall by day display in a conspicuous manner from the masthead (or in case of a rowboat from a flagstaff in the bow) a red and white horizontal flag (red uppermost) of a size not less than 6 feet long by 3 feet 6 inches wide; and at night shall exhibit every hour a flare-up light so long as a licensed pilot is on board; and every pilot shall on going on board produce to the master or person in charge his license and a copy of the pilot rules and every licensed pilot or pilots neglecting any portion of this rule shall be reported to the governor.

17. It shall not be compulsory for the master of any vessel to engage the services of pilot, he may refuse; but should he take a pilot the *master is still responsible for* the navigation of his vessel and for any and *all damage* that may arise to his own or any other vessel from collision, stranding or any other accident caused by the negligence or unskillfulness of such pilot.

LIGHTS AND LIGHT DUES.

There are no light dues whatever on steam or sail, laden or in ballast. There are three light-houses, viz:

(1) On Ragged Point a little north of the extreme eastern end of the island, position in latitude 13° 9′ N., longitude 59° 26′ W. The light is a revolving holophotal one, giving bright flashes at intervals of 2 minutes. It may in clear weather be seen at a distance of 25 miles. The light has only been in operation since 1876.

(2) On South Point, 200 yards inshore, stands a light-house 90 feet high, painted with alternate red and white bands. It is a red light and revolves once a minute. It is eclipsed for 12 seconds, then reappears, and for 24 seconds is again eclipsed. It is visible at a distance of 18 miles, but only between the bearings of SW. by W. ½ W. and ESE. ¼ E.

(3) On Needham's Point. On this, the southern limit of Carlisle Bay, a fixed light is exhibited which shows red from E. to W. to the southward and white all the N. and W.; the former is visible 3 miles and the latter 8 miles off. Since September 1, 1866, this light has been shifted from the former light-house to a new one erected 600 feet in a due eastern direction from the old light-house, being 60 feet high, and painted white.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels, whether in the foreign or coasting trade, laden or in ballast, when landing or lading cargo or part of cargo; but sail or steam vessels calling to obtain freight, for orders, to try the market, obtain provisions, refit, or steamers to coal, are exempt from tonnage dues and only incur $3 port dues, and may lie as long as the masters please.

There is no discrimination in regard to flag.

There are no special privileges for vessels of any nationality.

QUARANTINE.

Quarantine laws are as a rule very strictly enforced in Barbadoes, but said laws are very changeable according to circumstances and cases, places whence vessels arrive, etc.

The only striking anomaly is that people put in quarantine are expected to pay their own quarantine expenses, the colony putting the same upon the steamer companies and these latter in their turn upon the passengers, who being helpless in the case have to put up with it.

E. A. DIMMICK.

UNITED STATES CONSULATE,
Barbadoes, October 7, 1890.

THE LEEWARD ISLANDS.

[Antigua, St. Christopher, Nevis, Dominica, Monserrat, Anguilla, Virgin Islands, etc.]

LEEWARD ISLANDS QUARANTINE REGULATIONS.

[Transmitted by Consul Jackson, of Antigua.]

* * * * * * *

7. All vessels arriving at any presidency, together with all persons, goods, and merchandise whatsoever thereon, coming from any infected place, or having on board any person who has come from such infected place, or who is ill of any contagious or in-

fectious disease, or on board of which vessel any person shall have died from any such disease during the passage to such presidency, shall be liable to perform quarantine in such place for such time and in such manner as hereinafter provided.

8. Every vessel arriving at any of the ports of any presidency from any infected place shall immediately on arrival, and before having any communication with the shore, be visited by the harbor master or visiting officer of the port to which such vessel shall come, who is hereby authorized and required, at a convenient distance from the said vessel, to put the following questions, or such of them as may be necessary, and any other questions which he may consider desirable:

(1) What is the name of the vessel and of the master?

(2) To what port or place does she belong?

(3) From whence do you come?

(4) To what port or place are you bound?

(5) At what ports or places have you touched in the course of the voyage?

(6) What vessels have you had any intercourse or communication with during your voyage, and from whence did they come?

(7) Have you any, and what bill of health? Produce it.

(8) Did you carry any bill of health with you to the port or place where you took in the cargo or passengers you now have on board? From what place? Were the said bills of health clean, unclean, or suspected?

(9) Did any contagious or infectious disease prevail in any degree at the port or place from which you sailed, or at any of the ports or places at which you touched? If yes, say what disease prevailed, and at which port or place?

(10) What number of officers, crew, passengers, or other persons have you on board?

(11) Were any of these taken on board at any port or place during the voyage to this island? If yes, who were so taken on board and at what port or place, and on what day or days?

(12) Are any persons on board your ship suffering under any contagious or infectious disease, or have any persons died or been ill of a disease of that nature in your passage to this island, and if any what number?

(13) If any have died or been ill of any such disease, were their bedding and clothes destroyed?

(14) In the course of your voyage have any persons on board suffered from sickness of any kind? What was the nature of the sickness, and when did it prevail? How many persons were affected by it?

(15) How had the persons attacked been employed before they came on board? Had they been employed in loading or unloading the vessel?

(16) Did the persons who were ill fall sick nearly about the same time, or within a few days of each other, or did the disorder spread successively from one to another, and increase considerably?

(17) What is the number of persons now ill on board your vessel? Are the convalescents able to be on deck? If so, parade them on the gangway.

(18) Have there been any deaths on board during the voyage? If yes, what were the causes of the deaths, and when did such deaths take place?

(19) Have you any person on board who has left [name of infected port or place,] within 14 days?

(20) Where did you take in the cargo now on board, and when? If at more than one place state the places.

(21) Was any cargo, or were any letters, parcels, or articles of any kind put on board at [name of infected port or place]? If yes, state what was put on board, and when, and whether any special precaution was taken with respect to such things.

9. The harbor master or visiting officer may, if he thinks it necessary, go on board any such vessel and examine the master, officers, crew, and passengers thereof respectively, as to their state of health then and during the voyage, and demand to see the journal or log and ship's papers of such vessel, and put any of the questions set forth in the preceding section, or any other questions which he shall think desirable.

10. Any master or other person who shall conceal from any such harbor master or visiting officer the true state of the health of the crew or other persons on board of such vessel, or shall give an untrue answer to any inquiry made by such harbor master or visiting officer under the authority of this law, shall be liable to a penalty not less than £5, and not exceeding £100.

11. No master or other person belonging to or on board of any such vessel, and no pilot or pilot's assistant who shall have proceeded on board such vessel, shall quit the same for the purpose of landing or communicating with the shore before such vessel shall have been visited by the harbor master or visiting officer, unless permission to do so be granted in writing by the harbor master or visiting officer.

12. No person, the pilot or his assistant excepted, shall proceed on board such vessel before she shall have been visited by the harbor master or visiting officer, unless permission to do so be granted to him in writing by the harbor master or visiting officer.

13. Any person offending against the provisions of either of the two preceding sections shall be liable to a penalty not less than £5, and not exceeding £50.

14. If any vessel shall have arrived from or touched at any infected place, or have on board any person who has come from such place, or on board which any person may have died during the passage to the island, or may be ill of any contagious or infectious disease, or if the harbor master or visiting officer shall have good grounds to suspect that such vessel, or some person on board thereon, has arrived from or touched at any such place, the said harbor master or visiting officer is required to cause the said vessel to hoist the quarantine flag, and to anchor at the quarantine ground if any, but if none, then at some other suitable and convenient place until further directions from the quarantine board.

15. The harbor master or visiting officer shall forthwith, after making such inquiry and examination as aforesaid, report thereon to the quarantine board, who shall, upon such report, or upon further inquiry, if thought necessary, decide whether the said vessel is to remain in quarantine, and for how long.

16. Subject to any special rules and regulations of the governor in council, the following rules as to the duration of quarantine shall be observed:

(1) All vessels on board of which any person shall be sick, or shall have been sick of any contagious or infectious disease, or shall have died of such disease within 14 days before her arrival at the island, shall remain in quarantine until the expiration of 14 days from the day when such sickness shall cease or shall have ceased, or from the day when such death shall have occurred.

(2) All vessels that shall have sailed from or touched at any infected place, or shall have any person on board who shall have come from any such place, shall remain in quarantine for such time, not being less than 2 days nor exceeding 21, as shall be directed by the quarantine board on a due investigation of all the circumstances of the case.

(3) If, during the continuance of a vessel in quarantine, any person on board such vessel falls sick of any contagious or infectious disease, such vessel shall be liable to remain in quarantine for a further period of 14 days from the day when such sickness shall cease.

17. The quarantine board shall, with the approval of the governor, appoint suitable places for quarantine grounds, and shall have power, with the like approval, from time to time to change such places.

18. Any master of a vessel liable to the performance of quarantine who shall not, after notice, cause such vessel to proceed to the quarantine ground, shall be liable to a penalty not less than £10 and not exceeding £50; and it shall be lawful for the harbor master or visiting officer, or any person called to their assistance, to enforce the removal of any such vessel to the quarantine ground, and to use all necessary means for that purpose.

19. The master of every vessel subject to quarantine shall, during the day, hoist and keep flying a yellow flag, which shall be provided by the quarantine board; and shall, during the night, hoist and keep alight a signal lantern, which, when necessary, shall also be provided by the quarantine board; and every master offending herein shall be liable to a penalty not less than £5 and not exceeding £50.

20. Until any vessel as aforesaid shall have performed and been duly discharged from quarantine, no person on board of or belonging to such vessel, nor any part of the cargo, stores, or lading of the same, nor any articles or things belonging to the passengers, master, officers, or crew thereof, shall be permitted to leave, to be removed or taken from such vessel, either to go or to be put on shore or on board of any vessel in any port of any presidency, unless by the direction of the governor in council, or of the quarantine board, or of some person duly authorized by them; and every such vessel and all persons, goods, and merchandise thereon, and all vessels and persons having communication with the same, shall be subject to such rules and regulations as may be made by the governor in council.

21. Until any vessel as aforesaid shall have performed and been duly discharged from quarantine, no person, except the harbor master or visiting officer, or such other person as may be authorized by the quarantine board, shall go on board such vessel; and no article or thing shall be taken or received on board such vessel except by the direction of the said quarantine board, or of the said harbor master or visiting officer.

22. Any person offending against the provisions of sections 20 and 21 shall be liable to a penalty not less than £5 and not exceeding £50.

23. If, during the time that any vessel is in quarantine, the master thereof shall, without the permission of the quarantine board, or of the harbor master or visiting officer, quit or knowingly suffer any passenger, seaman, or other person on board to quit such vessel, or any goods, articles, or things whatsoever to be taken from such vessel, he shall be liable to a penalty not less than £10 and not exceeding £100.

24. Any person who, during the continuance of quarantine, leaves the vessel without proper permission in that behalf may, in addition to the penalty hereinbefore mentioned, be apprehended by any constable or other person, and compelled to

return to the said vessel, or be taken before a resident, district, or police magistrate, who may order that such person be returned to the said vessel, or be confined in some lazaretto or other suitable place of confinement, for such period not less than 2 days nor exceeding 21, as he may think fit.

25. Any person who goes on board a vessel in the performance of quarantine without permission as aforesaid may be compelled to remain on board the said vessel, and be subject to the rules and regulations thereof, during the continuance of the quarantine, or until such time as to the quarantine board shall seem fit.

26. The governor in council is hereby authorized, whenever it shall be thought necessary, to provide, at the public expense, one or more vessel or vessels, or buildings, and to cause the same to be fitted up as lazarettos for such use and purposes as the quarantine board shall, with the approval of the governor, from time to time order and direct.

27. The governor in council is authorized to frame such rules and regulations as may be deemed expedient for the government and direction of the lazaretto or lazarettos, and of such persons as may belong thereto or be placed therein.

28. Any person, except the harbor master or visiting officer, who enters or leaves any lazaretto, without permission from the quarantine board, or from the said harbor master or visiting officer, may be dealt with in the manner hereinbefore provided in the case of a person, without permission, going on board or leaving a vessel in the performance of quarantine, and shall be liable to like penalties.

29. Any officer or person appointed to enforce the performance of quarantine, who shall desert from duty, or shall infringe or knowingly suffer or permit any person to infringe the provisions of this act, and of any rules and regulations in force concerning quarantine, shall be liable to a penalty not less than £5 and not exceeding £50, and shall be subject to immediate dismissal.

30. Any person who shall knowingly conceal or clandestinely convey any letters, goods, wares, or merchandise from any vessel liable to or in the performance of quarantine, or from any vessel, house, or other place where any person or goods shall be subjected to quarantine, shall be liable to a penalty of not less than £10 and not exceeding £50.

31. As soon as any quarantine shall have been fully performed by any vessel or person, the harbor master or visiting officer, or other person appointed by the governor in that behalf, shall grant a certificate to that effect, whereupon every such vessel or person, and all cargo and goods on board such vessel, shall be liberated from all detention on the ground of quarantine.

32. All penalties incurred under this act may be recovered under the provisions of the act of the Leeward Islands No. 14 of 1873, and in default of payment the offender may be committed to the common jail for any period not exceeding 6 months: *Provided always*, That upon payment by the offender of the penalties and costs, after commitment, his imprisonment shall cease.

33. All penalties which shall be paid under this act shall be paid to Her Majesty, her heirs and successors, for the public use of the presidency where the same shall be recovered.

34. For the protection of persons acting in the execution of this act, all actions and prosecutions against any person for anything done in pursuance of this act shall be commenced within 6 calendar months after the act committed and not otherwise, and notice in writing of such action, and the cause thereof, shall be given to the defendant 1 calendar month at least before the commencement of the action; and in any such action the defendant may plead the general issue and give this act and the special matter in evidence at any trial to be had thereupon; and no plaintiff shall recover in any such action if tender of sufficient amends shall have been made before such action brought by or on behalf of the defendant; and if a verdict shall pass for the defendant, or the plaintiff shall become nonsuit, or discontinue any such action after issue joined, or if, upon demurrer or otherwise, judgment shall be given against the plaintiff, the defendant shall recover his full costs as between attorney and client, and shall have the like remedy for the same as any defendant hath by law in other cases; and although a verdict shall be given for the plaintiff in any such action, such plaintiff shall not have costs against the defendant unless the judge before whom the trial shall be shall certify his approbation of the action and of the verdict obtained thereupon.

35. It shall be lawful for the governor in council to draw upon the treasurer of any presidency for any expenses incidental to the execution of this act in such presidency.

36. Nothing in this act contained shall extend or be construed to extend to prevent the delivery by the officers in charge of Her Majesty's mails, or officers of the royal mail, or any other steam packet company, of any mails that may from time to time be on board of any such steam packet, under such rules and regulations for the prevention of the introduction of any of the beforementioned diseases as may from time to time be made by the governor in council, who is hereby empowered to make such

rules and regulations in regard to the landing and receipt of the said mails and in regard to the coaling of the said steamers in any port within this government.

Dated at St. Kitts the 2d day of June, 1876.

An act to amend the (foreign) quarantine act 1876.

* * * * * * *

2. No person shall, without the express sanction of the governor or some other person appointed in that behalf by writing under his hand, be permitted to land for the purpose of staying out his or her quarantine at any lazaretto provided under the principal act until he shall have complied with the conditions contained in any order to be made under this act.

3. The governor in council may from time to time make orders setting forth the conditions under which persons arriving in the Leeward Islands will be permitted to land for the purpose of staying out their quarantine in a lazaretto, and when made may repeal or in any way alter or amend the same.

4. An action may be brought on any guaranty given in pursuance of any condition contained in any order made under this act in the name of the treasurer of the presidency, notwithstanding any change in the person holding that office or discharging its duties.

Dated at Antigua the 31st day of December, 1887.

ANTIGUA.

REPORT BY CONSUL JACKSON.

PILOTAGE.

Pilotage is compulsory in all cases for vessels of the country as well as for foreign vessels of over 60 tons.

Pilot charges are the same for vessels of the country as for foreign vessels. No foreign flag enjoys special privileges in this regard. Vessels in distress pay pilot charges; foreign war vessels do not.

LIGHTS AND LIGHT DUES.

Light dues are not collected from any vessels, foreign or otherwise. There is only one light—altitude, 57 feet; distance visible, 13 miles—a white fixed light.

TONNAGE DUES.*

Tonnage dues are collected from all classes of vessels, whether on the foreign or coasting trade, laden or ballast. There is no discrimination in regard to flag. No vessels of any nationality enjoy special privileges.

QUARANTINE.

See copy of act herewith, entitled "Leeward Islands quarantine regulations," following the report from Barbadoes, p. 152.

The duration of quarantine is at discretion of quarantine board in each case, but not over 21 days. The Government pays for the detention of passengers and the ship pays for the fumigation.

CHESTER E. JACKSON,
Consul.

UNITED STATES CONSULATE,
Antigua, August 16, 1889.

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* See supplementary report immediately following.

SUPLEMENTARY REPORT BY CONSUL JACKSON.

I have to report that the law of this port respecting tonnage dues has been repealed, and that new regulations came into force on the 2d day of January of this year.

All vessels, except those under 30 tons burden, which pay a tax but once a year, are now subject to a tax of 18 cents for each ton of freight landed or loaded, and I present herewith a schedule which determines the amount of freight required to constitute a ton.

To masters of vessels and others in the United States interested in making charters for the round trip it is of importance that they should understand that a vessel is not only liable for payment of these dues on inward cargo, deck load included, but also for a like amount on all outward cargo.

The late law required a tax of 24 cents per ton registered measurement, irrespective of cargo, and it covered not only the arrival but the departure of a vessel.

CHESTER E. JACKSON.
Consul.

UNITED STATES CONSULATE,
Antigua, February 21, 1890.

[Inclosure in Consul Jackson's report.]

Antigua.—No. 11 *of* 1889.

An act to repeal the laws heretofore in force in this presidency relating to tonnage duties and to make other provisions in lieu thereof.

* * * * * * *

2. From and after the passage of this act a duty of 9 pence per ton of cargo landed from or taken on board any vessel making entry at or clearing from any port or place in this presidency, to be computed and paid on the weight or measurement of the goods forming part of such cargo, in the manner provided for in Schedule B, annexed to this act shall, save and except as is hereinafter provided, be paid to the treasurer for the use of her majesty, her heirs and successors, by the master of every vessel arriving with cargo and entering at the treasury on each and every occasion of such arrival and entry and a like duty of 9 pence per ton, to be computed and paid as aforesaid, shall be paid by the master of every vessel taking on board cargo at any port or place in this presidency and clearing outwards, except as is hereinafter provided, *Provided always*, That in case of registered steamships having a duly accredited agent or consignee in any port in this presidency the aforesaid tonnage duty may be paid by such agent instead of by the master of such steamship, if within 48 hours after the entering of such steamship a freight list of all goods laden on board such steamship intended to be landed at such port and exhibiting the weight or measurement of all such goods, together with the bills of lading thereof, shall be delivered to the treasurer, on which list and bills of lading the amount of tonnage duties chargeable to and to be paid on such steamship shall be computed and determined, and the agent or consignee of every such steamship shall be liable for and shall pay to the treasurer within 48 hours after the departure of every such steamship the amount of such tonnage duties as computed and determined, and in case of any such steamship leaving any port or place in this presidency with goods laden at such port or place the agent or consignee thereof shall within 48 hours after the departure of such steamship produce to the treasurer or other proper officer of customs an account exhibiting the weight or measurement of all such goods on which shall be computed and determined the amount of tonnage duties chargeable to and to be paid on such steamship on clearing outward: *Provided also*, That vessels under 30 tons burden registered measurement shall only be liable to the payment of tonnage duty once in every year, to be computed and paid at the rate of 9 pence per ton on their registered tonnage, which duty shall be paid either on arrival and entry or taking on board cargo, and vessels arriving and also departing in ballast only or carrying salt only or calling at any port in this presidency on their way to another port and landing passengers and their personal effects and small packages only and not breaking bulk or disposing of any part of their cargoes, or taking on board any cargo, shall not be liable to the payment of the aforesaid tonnage duty either inwards or outwards.

3. Cargo transferred from one vessel to another vessel from any port of this presidency for the purpose of being carried to any place elsewhere than in this presidency shall be exempt from tonnage duty; but should such goods be landed or brought into consumption in this presidency, then they shall be subject to the same rate of tonnage duty as would otherwise have been chargeable.

4. The tonnage duties imposed by this act shall be paid by the master of every vessel, other than a registered steamship, before clearance, and no clearance shall be granted by the treasurer under the provisions of the "tariff collection act," 1864, until such duties have been paid.

Any person offending against the provisions of this section shall be liable to a fine not exceeding £100, and in default of payment to imprisonment for a term not exceeding six months.

5. It shall be lawful for the treasurer, or other proper officer of customs, to demand to be produced to him by the master or duly accredited agent of any vessel the bills of ladings of and relating to all cargo in respect of which the tonnage duty imposed by this act shall be payable for the purpose of computing the tonnage duty payable under this act, and in case there shall be no bill of lading of such cargo or of any part thereof, to enter such vessel for the purpose of weighing or measuring such cargo or part thereof for which there shall be no bill of lading, and to detain such vessel until such weighing or measurement shall have been made, and if any master of any vessel, or duly accredited agent or consignee of a registered steamship, shall refuse to produce such bills of lading or to permit such entry upon the vessel weighing or measuring as aforesaid, he shall forfeit and pay any sum not exceeding £50, and in default of payment shall be committed to the common gaol for any period not exceeding 3 calendar months, unless such penalty and costs be sooner paid. Any expenses incurred by the treasurer or other officer in weighing or measuring such cargo as aforesaid, for which there shall be no bill of lading, shall be added to the tonnage dues payable in respect of such cargo and shall be recoverable in like manner as the said tonnage dues.

6. In cases where, under the laws heretofore in force imposing tonnage duties and repealed by this act, the master of any vessel has prepaid the tonnage duties payable under the aforesaid laws and has thereby required in respect of such vessels exemption from the payment of tonnage duties inwards or outwards as the case may be for a period of time unexpired at the time of the commencement of this act, it shall be lawful for the treasurer to remit and repay to the master of such vessel of the tonnage duty prepaid by such master in respect of such ship, under the provisions of the aforesaid laws, a portion of such duty, prepaid as aforesaid, proportionate to the unexpired period of time aforesaid for which such exemption shall have been acquired and such duty as aforesaid shall have been paid.

7. The master of every ship or vessel under 30 tons arriving at any port of this presidency, whether laden or in ballast, shall come directly and before bulk be broken to the office of the treasure and exhibit to the said treasurer or other proper officer of customs the certificate of the registry of the said ship or vessel, and upon such certificate the said tonnage duty when payable shall be assessed.

8. If the master of any ship or vessel arriving at any port of this presidency shall fail to exhibit the certificate of the registry of such ship or vessel as hereinbefore directed, or shall willfully deliver an untrue certificate, or if any goods shall be laden on board or unladen from any ship or vessel before the tonnage duty payable upon such ship or vessel or the substituted duty, as the case may be, upon such goods so laden on board or unladen from any ship or vessel shall have been duly paid, such master shall in each and every such case upon conviction thereof be liable to a penalty not exceeding £100 of sterling money and in default of payment shall be committed to the common jail for any period not exceeding six calender months unless such penalty with costs be sooner paid and satisfied.

9. Any penalty imposed by this act may be sued for, recovered, and enforced by the treasurer or any person authorized by him thereunto, before a district magistrate, in a summary manner under the provisions of the act of the Leeward Islands, No. 14 of 1873, respecting the duties of magistrates out of sessions in relation to summary convictions and orders.

THOS. D. FOOTE,
President.

Passed the legislative council the 12th December, 1889.

W. M. GORDON,
Clerk.

Dated at Antigua this 31st day of December, 1889, in the fifty-third year of Her Majesty's reign.

Duly published at Antigua this 2d day of January, 1890.

O. HUMPHRYS,
Provost-Marshal.

ANGUILLA.

REPORT BY CONSULAR AGENT REY.

PILOTAGE.

Pilotage is not compulsory, neither for foreign vessels nor for vessels of the country. The charges for pilotage are moderate, say from $4 to $6 per vessel. There would be no exception to above rates for vessels in distress or for war vessels, foreign or national.

LIGHTS.

There are no lights and no dues.

TONNAGE DUES.

Tonnage dues are collected on all vessels under 30 tons, payable once a year, at the rate of 1 shilling per ton, registered measurement. Vessels of over 30 tons pay package dues at the rate of 1 shilling per ton of the cargo landed. Vessels loading salt here are exempt from the payment of any duty whatever. There is no discrimination in regard to flag, and no special privileges are enjoyed by any nationality.

QUARANTINE.

Quarantine rules are established here by the general government of the Leeward Islands, and are in no way interfered with by the State or municipality. A board of health, composed of three members, including the chief magistrate, who presides, imposes the quarantine restrictions of the island, which are identical with those in force in the Leeward Islands government, of which this island is a district.

All infectious or contagious diseases are discriminated against, yellow fever, smallpox, and cholera, for 40 days. The expenses of fumigation are borne by the government; those of detention as to passengers and cargo are borne by the passengers and owners. There is no lazaretto on the island.

WAGER REY,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Anguilla, October 11, 1889.

DOMINICA.

REPORT BY CONSULAR AGENT STEDMAN.

PILOTAGE.

There are no pilotage fees in Dominica, as the anchorage is an open roadstead; masters of vessels can come to an anchor without any difficulty; they usually anchor in 15 to 20 fathoms at a short distance from shore.

LIGHT DUES.

There are no light dues of any description at this port.

TONNAGE DUES.

Tonnage dues are the same on vessels of all nationalities; the rate is 1*s.* 2*d.* per ton on all cargo landed or taken on board; vessels taking fruit alone do not pay any tonnage dues; there is no discrimination in regard to flag; vessels of all nationalities enjoy the same privileges. No tonnage dues are payable when vessels arrive and depart in ballast.

QUARANTINE

Is regulated under a federal law, which governs all the Leeward Islands alike; the period of quarantine is from 2 to 21 days, as may be directed by the quarantine board after due investigation of the case, vessels having on board any contagious or infectious disease or having touched at any infected place, are put in quarantine for 21 days.

WM. STEDMAN,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Roseau, March 4, 1890.

MONTSERRAT.

REPORT BY CONSULAR AGENT HANNAM.

PILOTAGE.

No legal system of pilotage exists at this port, nor, indeed, is any needed. The roadstead opposite to the town of Plymouth is an open one and may be easily and safely approached at any time. Good anchorage may be found within a cable's length of the shore, varying from 6 to 20 fathoms.

LIGHT DUES.

There are no established lights, therefore no light dues.

TONNAGE DUES.

Tonnage dues were abolished at this port more than 20 years since, and from that time the port has been absolutely free to vessels of whatever nationality.

QUARANTINE.

Any vessel arriving at this port must first be visited by the health officer of the port, who is supposed to put the usual questions to the master, and until he (the health officer) gives his permission no communication may take place between the vessel and the shore or shore boats. If the vessel be from or have touched at or communicated with any infected port, or any port suspected of being infected, or if there be any suspicion of sickness on board, she will be desired to hoist the quarantine flag and proceed to the quarantine ground until the health officer shall have communicated with the quarantine board, who will fix a time during which such vessel must perform quarantine or release her from the same, as the case may be. The diseases quarantined are cholera, smallpox, yellow fever, and all other infectious and contagious

diseases. The times during which vessels may be detained in quarantine are fixed by the quarantine board and are as follows:

First. All vessels on board which any person shall be sick or shall have been sick of any infectious or contagious disease, or shall have died of any such disease within 14 days before her arrival at the island, shall remain in quarantine until the expiration of 14 days from the day when such sickness shall cease or shall have ceased or from the day on which such death shall have occurred.

Second. All vessels that shall have sailed from or touched at any infected place, or shall have any person on board who shall have come from any such place, shall remain in quarantine for such time, not being less than 2 days nor exceeding 21 days, as shall be directed by the quarantine board on a due investigation of all the circumstances of the case.

Third. If, during the continuance of a vessel in quarantine, any person on board such vessel shall fall sick of any contagious or infectious disease, such vessel shall be liable to remain in quarantine for a further period of 14 days from the day when such sickness shall cease.

All expenses of detention and fumigation of passengers and cargo are borne by the vessel, but daily visits are made by the health officer at the expense of the Government.

The quarantine rules are enacted by the federal council of the Leeward Islands, but may be suspended for a time and reimposed by an order of the governor in council.

RICHARD HANNAM,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Montserrat, February 14, 1890.

NEVIS.

REPORT BY CONSULAR AGENT SIMMONDS.

PILOTAGE.

Pilotage is not compulsory in this country; the harbor being an open one, vessels of all sizes, classes, and nationality may enter without a pilot. Fishing smacks do ply up and down, the captains offering to act as pilots, but as these men are not certificated they are in no way responsible. The captains who engage these men do so on their own responsibility and risk.

LIGHT DUES.

There are no light dues whatever payable or chargeable in this country.

HARBOR DUES.

Package dues are collected on all goods landed and shipped in lieu of tonnage dues at the rate of 24 cents per ton of 40 cubic feet or 2,240 pounds weight. Vessels not over 30 tons pay tonnage dues as per register at the rate of 24 cents per ton once a year. No discrimination in regard to flag. No vessels of any nationality enjoy special privileges.

QUARANTINE.

All vessels arriving from a port which has been declared by the governor in council infected are placed on quarantine by the visiting officer, after which that officer reports the matter to a local board, who then determine the length of time such vessel is to remain on quarantine, which seldom exceeds 21 days from the date of departure from the infected port. All expense of fumigation of passengers and cargo is borne by the vessel. The governor in council removes the quarantine when he has been satisfied by the British consul at the infected port that the disease is over. The local board has no authority to admit vessels to pratique until the governor removes the quarantine.

CHAS. H. SIMMONDS,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Nevis, February 18, 1890.

TRINIDAD.

REPORT BY CONSUL SAWYER.

PILOTAGE.

There are no compulsory pilot charges for vessels of any nationality entering the Gulf of Paria or the ports of Trinidad.

There are no pilot charges to any vessel in Trinidad. No foreign flag enjoys any special privilege in this regard, for there is not any pilot charge to any vessel. Vessels in distress and foreign war vessels do not pay pilotage.

LIGHTS AND LIGHT DUES.

There are no light dues in Trinidad. There are no dues, whether there is or is not a light in or around the harbors or ports of the island of Trinidad.

The lights on the island are few and of an inferior character.

A sexangular light-house, constructed of stone base and wooden and tin tower, painted white, is erected on King's wharf, about 150 feet northeasterly from the outer end of the landing jetty at Port of Spain. It has a common globular lamp 12 inches in diameter, and exhibits a fixed white light at an elevation of 55 feet above the sea, visible 10 miles.

On the outer end of the said jetty is hoisted on a pole, 14 feet high, a small fixed red light, visible 2 miles, which is used to designate the landing place.

On Icacas Point there is fixed white light, consisting of a square lantern 12 inches by 12 inches (kerosene oil), and hoisted on a pole about 50 feet high, and is visible 8 miles. But this light can be seen only from right abreast of it because of many tall trees that intercept the view from all other directions.

This light is necessary to guide vessels through the east channel of the Boca-de-la-Sierpe.

These are the only lights to guide the navigator in approaching or leaving Trinidad.

TONNAGE DUES.

There are no tonnage dues collected from any vessel whether in the foreign or coasting trade, laden or in ballast.

QUARANTINE.

The rules regulating quarantine are laid down in the Ordinances No. 9 of 1871, No. 3 of 1877, No. 20 of 1886, and No. 4 of 1888.

Yellow fever, cholera, smallpox, the plague, and any epidemic disease of a contagious or infectious character are quarantined. Any term of quarantine is imposed from 16 to 21 days, as the quarantine board may direct, according to the date of the vessel leaving an infected port, or in the event of sickness during the passage, and from the date of the death or convalescence of the case.

The ship bears the expense of detention, fumigation, change of cargo, etc., but in case of passengers who may be detained on board, or are taken to a lazaretto to remain until the quarantine has terminated, they must pay their own expenses; but if they are not in a condition to do so the ship is responsible.

Quarantine laws are here made by the local government as recommended by the quarantine board, that is composed of medical officers appointed by the Crown. The governor, colonial secretary, commander of the troops, and attorney-general are the executive council. The official members of the legislative council are appointed by the Crown, but the unofficial members of this council are nominated by the governor and confirmed by the Crown. The chief justice and both puisne judges are appointed by the Crown. It is absolutely a crown colony, the secretary of state, in Downing street, London, virtually ruling the island.

It therefore follows that the General (Imperial) Government can take full charge and supersede the local government in regard to quarantine laws.

MOSES H. SAWYER,
Consul.

UNITED STATES CONSULATE,
Trinidad, August 30, 1889.

Ordinance of 1871.

[Inclosures in Consul Sawyer's report.]

TRINIDAD QUARANTINE LAWS.

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2. In this ordinance the term "infected place" means any port or place where yellow fever, the plague, cholera, or any epidemic disease of a contageous or infectious character, in fact prevails, or any port or place which the governor with the advice of the executive council may declare to be an infected port or place.

The word "vessel" means any ship, vessel, or boat; and the word "master" means the master, officer, or other person for the time being in charge or command of such vessel. The word "governor" means the officer for the time being lawfully administering the government of this colony, and the word "justice" means any police magistrate or justice of the peace within the colony.

* * * * * * *

7. Every vessel arriving at this island, together with all persons, goods, and merchandise whatsoever thereon, coming from any infected place, or having on board any person who has come from any infected place, or who is ill of any contagious or

infectious disease, or on board of which vessel any person shall have died or shall have been ill from any such disease during the passage to this island, shall be liable to perform quarantine in such place for such time and in such manner as hereinafter provided.

8. Every vessel arriving at any of the ports of this island from any infected place shall immediately on arrival, and before having any communication with the shore, be visited by the harbor master, or visiting officer of the port to which such vessel shall come, who is hereby authorized and required at a convenient distance from such vessel to put the following questions, or such of them as may be necessary, and any other questions which he may consider desirable.

(1) What is the name of the vessel and of the master?

(2) To what port or place does she belong?

(3) From whence do you come?

(4) To what port or place are you bound?

(5) At what ports or places have you touched in the course of the voyage?

(6) What vessels have you had any intercourse or communication with during your voyage, and from whence did they come?

(7) Have you any and what bill of health? Produce it.

(8) Did you carry any bill of health with you to the port or place where you took in the cargo or passengers you now have on board? From what place? Were the said bills of health clean, unclean, or suspected?

(9) Did any contagious or infectious disease prevail in any degree at the port or place from which you sailed, or at any of the ports or places at which you touched? If yes, say what disease prevailed and at which port or place.

(10) What number of officers, crew, passengers, or other persons have you on board?

(11) Were any of these taken on board at any port or place during the voyage to this island? If yes, who were so taken on board, and at what port or place, and on what day or days?

(12) Are any persons on board your ship suffering under any contagious or infectious disease, or have any persons died or been ill of a disease of that nature in your passage to this island; and if any, what number?

(13) If any have died or been ill of any such disease were their bedding and clothes destroyed?

(14) In the course of your voyage have any persons on board suffered from sickness of any kind? What was the nature of the sickness and when did it prevail? How many persons were affected by it?

(15) How had the persons attacked been employed before they came on board? Had they been employed in loading or unloading the vessel?

(16) Did the persons who were ill fall sick nearly about the same time, or within a few days of each other, or did the disorder spread successively from one to another and increase considerably?

(17) What is the number of persons now ill on board your vessel? Are the convalescents able to be on deck? If so, parade them on the gangway.

(18) Have there been any deaths on board during the voyage? If yes, what were the causes of the deaths, and when did such deaths take place?

(19) Have you any person on board who has left (name of infected port or place) within 14 days, or who has been taken on board within 14 days from a ship which has left (name of infected port or place) within 30 days?

(20) Where did you take in the cargo now on board, and when? If at more than one place state the places.

(21) Was any cargo, or were any letters, parcels, or articles of any kind put on board at (name of infected port or place). If yes, state what was put on board, and when and whether any special precaution was taken with respect to such things.

9. The said harbor master or visiting officer may, if he thinks it necessary, go on board any such vessel and examine the master, officers, crew, and passengers thereof respectively, as to their state of health then and during the voyage, and demand to see the journal or log and ship's papers of such vessel, and put any of the questions set forth in the preceding section, or any other questions which he shall think desirable.

10. Any master or other person who shall conceal from any such harbor master or visiting officer the true state of the health of the crew or other persons on board of such vessel, or shall give an untrue answer to any inquiry made by such harbor master or visiting officer under the authority of this law, shall be liable to a penalty not less than £5 and not exceeding £100.

11. No master or other person belonging to or on board of any such vessel, and no pilot or pilot's assistant, who shall have proceeded on board such vessel, shall quit the same for the purpose of landing or communicating with the shore before such vessel shall have been visited by the harbor master or visiting officer, unless permission to do so be granted in writing by the harbor master or visiting officer.

12. No person, the pilot or his assistant excepted, shall proceed on board such

vessel before she shall have been visited by the harbor master or visiting officer, unless permission to do so be granted to him in writing by the harbor master or visiting officer.

13. Any person offending against the provisions of either of the two preceding sections shall be liable to a penalty not less than £5 and not exceeding £50.

14. If any vessel shall have arrived from or touched at any infected place, or have on board any person who has come from any infected place, or on board which any person may have died or may have been ill during the passage to this island, or may be ill of any contagious or infectious disease, or if the harbor master or visiting officer shall have good grounds to suspect that such vessel or some person on board thereon has arrived from or touched at any such place, the said harbor master or visiting officer is required to cause the said vessel to hoist the quarantine flag, and to anchor at the quarantine ground until further directions from the quarantine board.

15. The harbor master or visiting officer shall forthwith, after making such inquiry and examination as aforesaid, report thereon to the quarantine board, who shall, upon such report, or upon further inquiry, if thought necessary, decide whether the said vessel is to remain in quarantine, and for how long.

16. Subject to any special rules and regulations made by the governor, with the advice of the executive council, the following rules as to the duration of quarantine shall be observed:

(1) All vessels on board of which any person shall be sick, or shall have been sick, of any contagious or infectious disease, or shall have died of such disease within 16 days before her arrival at this island, shall remain in quarantine until the expiration of not less than 16 nor more than 21 days, at the discretion of the quarantine board, from the day when such sickness shall cease, or shall have ceased, or from the day when such death shall have occurred.

(2) All vessels that shall have sailed from or touched at any infected place, or shall have any person on board who shall have come from any such place, shall remain in quarantine for such time, not exceeding 21 days, as shall be directed by the quarantine board on a due investigation of all the circumstances of the case.

(3) If, during the continuance of a vessel in quarantine, any person on board such vessel falls sick of any contagious or infectious disease, such vessel shall be liable to remain in quarantine for a further period of not less than 16 and not more than 21 days, in the discretion of the quarantine board, from the day when such sickness shall cease.

17. The quarantine board shall, with the approval of the governor, appoint suitable places for quarantine grounds, and shall have power, with the like approval, from time to time to change such places.

18. Any master of a vessel liable to the performance of quarantine who shall not, after being required so to do, cause such vessel to proceed to the quarantine ground, shall be liable to a penalty of not less than £10 and not exceeding £100; and it shall be lawful for the harbor master or visiting officer, or any person called to their assistance, to enforce the removal of any such vessels to the quarantine ground, and to use all necessary means for that purpose.

19. The master of every vessel subject to quarantine shall, during the day, hoist and keep flying a yellow flag, which shall be provided by the quarantine board, and shall, during the night, hoist and keep alight a signal lantern, which, when necessary, shall also be provided by the quarantine board; and every master offending herein shall be liable to a penalty not less than £5 and not exceeding £50.

20. Until any vessel as aforesaid shall have performed and been duly discharged from quarantine, no person on board of or belonging to such vessel, nor any part of the cargo, stores, or lading of the same, nor any articles or things belonging to the passengers, master, officers, or crew thereof, shall be permitted to leave or be removed or taken from such vessel, either to go or be put on shore, or on board of any other vessel in any port of this island, unless by the direction of the governor and executive council, or of the quarantine board, or of some person duly authorized by them; and every such vessel, and all persons, goods, and merchandise thereon, and all vessels and persons having communication with the same, shall be subject to such rules and regulations as may from time to time be made by the governor, with the advice of the executive council.

21. Until any vessel as aforesaid shall have performed and been duly discharged from quarantine, no person, except the harbor master or visiting officer, or such other person as may be authorized by the quarantine board, shall go on board such vessel; and no article or thing shall be taken or received on board such vessel except by the direction of the said quarantine board, or of the said harbor master or visiting officer.

22. Any person offending against the provisions of sections 20 and 21 shall be liable to a penalty not less than £5 and not exceeding £50.

23. If, during the time that any vessel is in quarantine, the master thereof shall, without the permission of the quarantine board or of the harbor master or visiting

officer, quit or knowingly suffer any passenger, seaman, or other person on board to quit such vessel, or any goods, articles, or things whatsoever to be taken from such vessel, he shall be liable to a penalty not less than £10 and not exceeding £100.

24. Any person who, during the continuance of quarantine, leaves the vessel without proper permission in that behalf, may, in addition to the penalty hereinbefore mentioned, be apprehended by any constable or other person and compelled to return to the said vessel, or be taken before a justice, who may order that such person be returned to the said vessel, or be confined in some lazaretto or other suitable place of confinement for such period not less than 2 days nor exceeding 14 as he may think fit.

25. Any person who goes on board a vessel in the performance of quarantine without permission as aforesaid may be compelled to remain on board the said vessel, and be subject to the rules and regulations thereof during the continuance of the quarantine, or until such time as to the quarantine board shall seem fit.

26. The governor, with the advice of the executive council, is hereby authorized, whenever it shall be thought necessary, to provide, at the public expense, one or more vessel or vessels, or buildings, and to cause the same to be fitted up as lazarettoes for such use and purposes as the quarantine board shall, with the approval of the governor, from time to time order and direct.

27. The governor, with the advice of the executive council, may from time to time make, and may from time to time alter or revoke, such rules and regulations as may be deemed expedient for the government and direction of the lazaretto or lazarettoes, and of such persons as may belong thereto or be placed therein.

28. Any person, except the harbor master or visiting officer, who enters or leaves any lazaretto, without permission from the quarantine board, or from the said harbor master or visiting officer, may be dealt with in the manner hereinbefore provided in the case of a person, without permission, going on board or leaving a vessel in the performance of quarantine, and shall be liable to like penalties.

29. Any officer or person appointed to enforce the performance of quarantine, who shall desert from duty, or shall infringe, or knowingly suffer or permit any person to infringe, the provisions of this ordinance, and of any rules and regulations in force concerning quarantine, shall be liable to a penalty not less than £5 and not exceeding £50, and shall be subject to immediate dismissal.

30. Any person who shall knowingly conceal or clandestinely convey any letters, goods, wares, or merchandise from any vessel liable to or in the performance of quarantine, or from any vessel, house, or other place where any person or goods shall be subjected to quarantine, shall be liable to a penalty of not less than £10 and not exceeding £50.

31. As soon as any quarantine shall have been fully performed by any vessel or person, the harbor master or visiting officer, or other person appointed by the governor in that behalf, shall grant a certificate to that effect; whereupon every such vessel or person, and all cargo and goods on board such vessel, shall be liberated from all detention on the ground of quarantine.

* * * * * * *

36. Nothing in this ordinance contained shall extend, or be construed to extend, to prevent the delivery by the officers in charge of Her Majesty's mails, or officers of the Royal Mail, or any other steam packet company, of any mails that may from time to time be on board of any such steam packet under such rules and regulations for the prevention of the introduction of any of the before-mentioned diseases as may from time to time be made by the governor with the advice of the executive council, who is hereby empowered to make such rules and regulations in regard to the landing and receipt of the said mails, and in regard to the coaling of the said steamers, in any port within this government.

* * * * * * *

Ordinance of 1877.

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2. In this ordinance the term "infected vessel" means as follows (that is to say):

(1) Every vessel on board of which on any given day there is or on any of the preceding 14 days there was any person suffering from a contagious or infectious disease; and (2) every vessel on board of which on any given day there is any person who or any article or thing which on such given day or on any of the preceding 14 days was in an infected place is an infected vessel on such given day; and (3) every vessel on board of which on any given day there is any person who or any article or thing which on such given day or on any of the preceding 14 days was on board any infected vessel as before defined is an infected vessel on such given day.

The term "quarantine flag" means a yellow flag of a shape and dimensions to be prescribed by the quarantine board, and

The term "quarantine light" means a light to be prescribed as such by the quarantine board.

* * * * * * *

4. (1) Where an infected vessel arrives at this island, and (2) where a vessel while in any port or harbor of this island becomes an infected vessel, all persons shall be subject to the same duties and liabilities as are by the principal ordinance imposed in the case of a vessel arriving at this island coming from an infected place.

5. When a vessel while in any port or harbor of this island becomes an infected vessel, the master or person having the charge of such vessel, if it be day shall forthwith hoist the quarantine flag, and if it be night shall forthwith hoist and keep alight during the night the quarantine light, and as soon afterwards as it is day hoist the quarantine flag.

Any master or person having charge of a vessel offending against the provisions of this section shall be liable to a penalty not less than £10 and not exceeding £100.

6. The quarantine board may from time to time make, alter, or revoke regulations permitting or prohibiting either generally or in any specified case or cases the landing in this island from any vessel of any person suffering from a contagious or infectious disease, and directing, where such landing is permitted, the precautions subject to which the landing is to be effected.

Any regulation made by the quarantine board under this section may at any time be revoked by the general board of health, and immediately upon such revocation shall cease to have any effect.

7. Any master of a vessel who knowingly suffers any person ill from a contagious or infectious disease to quit or be removed from such vessel except in accordance with regulations made by the quarantine board under this or the principal ordinance shall be liable to a penalty not less than £10 and not exceeding £100.

8. Any person knowing himself to be suffering from a contagious or infectious disease who knowingly and willfully lands or suffers himself to be landed on any part of this island except in accordance with regulations made by the quarantine board under this or the principal ordinance shall be liable to a penalty not less than £10 and not exceeding £100.

9. Any person who knowingly lands or procures to be landed, or who aids or assists in landing or procuring to be landed, upon any part of this island any person ill from a contagious or infectious disease except according to regulations made by the quarantine board under this or the principal ordinance shall be liable to a penalty not less than £10 and not exceeding £100.

* * * * * * *

Ordinance of 1888.

Whereas doubts have arisen as to the construction to be placed upon the provisions of section 20 of "the quarantine ordinance, 1871," and it is expedient to amend the law relating to quarantine, be it enacted by the governor of Trinidad, with the advice and consent of the legislative council thereof as follows:

1. No person who shall arrive in any port of the colony in a vessel which on her arrival in such port is liable to the performance of quarantine shall come or be put on shore in this island, whether from such vessel aforesaid or any other vessel arriving in any port of the colony or at any part of the coast thereof before the expiration of the number of days appointed for the performance of quarantine by the vessel in which such person shall have first arrived, unless by the direction of the governor and executive council or of the quarantine board or of some person duly authorized by them.

2. Any person offending against the provisions of the above section shall be liable to a penalty of not less than £5 and not exceeding £50, recoverable in the manner provided for the recovery of penalties by "the quarantine ordinance, 1871."

TOBAGO.

REPORT BY CONSULAR AGENT KEENS.

PILOTAGE.

Since the union of this island with Trinidad all the dues, except pilotage, payable on tonnage arriving in this colony, and the regulations guiding them, have been assimilated with those of the sister colony, and as Trinidad is a free port, the same applies to this colony also.

The dues payable for pilotage are regulated by Ordinance No. 11, of 1886, of Tobago, and the charges are as follows:

Inwards or outwards.

SAILING VESSELS.

	£	s.	d.
Under 50 tons		8	0
From 50 tons and under 75 tons		12	0
From 75 tons and under 100 tons		16	0
For 100 tons	1	0	0
Over 100 tons 1*d* for each ton in addition to the sum of	1	0	0

STEAMERS AND MEN-OF-WAR.

For every vessel drawing not more than 8 feet of water	2	0	0
For every vessel drawing more than 8 and not more than 14 feet of water	3	10	0
For every vessel drawing over 14 feet, for every foot additional or fraction thereof		6	0

OTHER FEES.

Removal from Scarborough to any out bay, or from one out bay to another, half of the above rates.			
Detention on board ship—lying by ..... per hour		2	6
Detention on board ship ..... per diem		6	0

N. B.—When detained on board for quarantine the fees to be paid out of the public Treasury.

With regard to the question if vessels in distress pay pilotage dues: This is of so unusual an occurrence that no provision has been made in the ordinance with regard to same, but I imagine in such a case the dues would be payable accordingly.

The light used in the light-house of this island is quite new; it is a fixed white light, and the altitude of same is 128 feet above the level of the sea, and is visible about 17¼ miles (nautical) out.

EDWARD KEENS,
Consular Agent.

TURK'S ISLAND.

REPORT BY CONSUL HANCE.

PILOTAGE.

Under the laws of the Turk's and Caicos Islands no master of a vessel is compelled to accept the services of a pilot. In cases, however, where a pilot offers his services to the master of a vessel not having a pilot on board, and such offer be rejected, the pilot is entitled to one half of the legal fee for conducting the vessel to an anchorage. This is applicable to merchant vessels of more than 50 tons burden of every country, including those of Great Britain, of which this is a colony. No special privileges are enjoyed in this respect by vessels in distress, or by vessels of any country excepting British war vessels. These last are subject to a special fee in cases where the services of a pilot are requested by the commander.

LIGHTS AND LIGHT DUES.

Light dues are only payable at one port within this colony, although there are three ports of entry. The light-house is in a very good con-

dition at the northern entrance to the Turk's Island Passage on the north point of Grand Turk Island. It is a second class, dioptric revolving light, at an altitude of 120 feet above the sea level, and visible at a distance of 15 miles from the deck of a vessel. The charge is 8 cents per ton of registered measurement, which is collected at the custom-house upon the entry of the vessel. This charge is applicable to all vessels, both British and foreign. No discrimination is made against American vessels. Steamships and all vessels carrying mails are exempt from the payment of light dues.

TONNAGE DUES.

The only tonnage dues imposed upon vessels within this colony are the light dues above mentioned. The charge is upon all vessels except coasting vessels bearing the British flag.

QUARANTINE.

The diseases quarantined are smallpox, yellow fever, and cholera. Quarantine is enforced only when evidence is produced to the commissioner that a port is infected. The vessels are quarantined for a period of from 14 to 20 days, unless a contagious disease should, in the mean time, have manifested itself on the quarantined vessel. Quarantine rules are established by the colonial government, subject to being superseded by the British Government.

JOS. L. HANCE,
Consul.

UNITED STATES CONSULATE,
Turk's Island, January 10, 1890.

PILOTAGE AT TURK'S ISLANDS.

[Inclosure in Consul Hance's report.]

RULES DRAWN UP BY THE GRAND TURK PILOTAGE BOARD, IN CONFORMITY WITH ORDINANCES 2 OF 1879, 6 OF 1886, AND 1 OF 1888.

1. *All former rules rescinded.*

All rules heretofore drawn up by the pilotage boards for the guidance of pilots or masters of vessels are hereby rescinded, and the following rules are substituted therefor:

2. *Limits of roadsteads.*

GRAND TURK.

Northern limit, Grand Turk light-house, bearing east.
Southern limit, Cotton Cay Bluff, bearing east.

SALT CAY.

Northern limit, Cotton Cay Bluff, bearing east.
Southern limit, south end of Salt Cay, bearing east.

COCKBURN HARBOR.

Northern limit, Rockfish Rock, bearing north.
Southern limit, south end of Long Cay, bearing west.
And to entitle a pilot to half pilotage if his services are refused, he must hail a vessel approaching the anchorage at Grand Turk, outside of the line of Salt Cay Bluff,

bearing south by west; a vessel approaching the anchorage at Salt Cay, outside of the line of Sand Cay beacon, bearing south; and a vessel approaching the anchorage at Cockburn Harbor, outside a straight line between Rockfish Rock and the south end of Long Cay.

3. *Pilot taking charge of ship.*

Every pilot, before receiving his license or entering upon the duties of a pilot, shall enter into a bond, with two sureties to be approved by the board—himself in the sum of £20, and his sureties in the sum of £10 each.

4. *Boat used as pilot boat.*

Any boat used as a pilot boat shall not be less than 12 feet in length of keel and must be the property of one or more pilots.

A pilot, in case of injury to his boat, may (with the approval of the board) use any other suitable boat for piloting until his boat is repaired—a reasonable time being allowed for making such repairs. In cases of emergency a consignee may send a pilot off to any ship requiring the services of a pilot in any boat.

5. *Flag of pilot boat.*

Every pilot boat shall carry a blue flag of one uniform size—4 feet 6 inches long, 3 feet wide—with the number of the pilot in the center of the flag. Such number or figures to be white, of not less than 20 inches long, and to be approved of by the board.

A pilot, after getting on board of any ship, must display his flag in the weather main rigging of such ship.

6. *Pilots boarding ships.*

All pilots, before boarding any ship, shall ask (first) from whence such vessel came; (second) whether any disease prevailed at the place from whence such vessel came; and (third) whether there is or has been any sickness on board during the voyage to these islands.

A pilot, being satisfied that any disease prevailed at the place from whence such vessel came, or is, or has been, on board such vessel during the voyage to these islands, must not board her, but direct that she be anchored at the quarantine station, and he himself shall immediately communicate with the health officer.

A pilot, being satisfied that there is no danger to be apprehended from boarding any vessel, shall (provided he be not otherwise instructed by the health officer) offer his services as pilot, and, if accepted, shall at once go on board.

7. *Penalty for incorrectly answering questions in rule* 6.

The master or person in charge of any vessel who shall knowingly give a pilot incorrect answers to any of the questions in rule 6 shall be liable to a penalty not exceeding £20.

8. *Pilots not to land from certain vessels.*

Any pilot or other person going on board of a vessel from which the health officer has pronounced that danger is to be apprehended shall not be allowed to land until all restrictions are removed.

9. *Pilots to show license.*

A pilot, on boarding a vessel, shall at once show his license and a copy of the pilot ordinances and rules and of the boarding of vessels ordinance to the master of such vessel, and shall produce the same as often as he may be required to do so by such master.

10. *To what pilots preference to be given.*

The master of any vessel desiring the services of a pilot is hereby required to give the preference to the first pilot actually alongside, the captain or master acting as *umpire* in all cases of dispute between pilots claiming charge of such vessel.

11. *Discharge of ballast.*

The following rule shall be strictly observed in the discharge of ballast:

At Grand Turk and Salt Cay stone ballast, shingle, or gravel must not be discharged except when the vessel is in such a position that the ballast thrown overboard falls into a depth of not less than 15 fathoms.

Vessels proceeding to Cockburn Harbor and having stone, gravel, or shingle ballast to discharge must do so outside the limits of the roadstead, or all such ballast not discharged before entering the harbor must be lightered ashore.

It shall be the duty of the pilot in charge of any vessel to give notice of this rule to the master, and any master or other person infringing this rule will be liable to a penalty not exceeding £50.

It shall be the duty of pilots to give notice to the port officer or his deputy and to the chairman of the pilotage board at whichever port the vessel may be of the discharge of ballast in any anchorage and of anchors left in the roads or anchoring places.

12. *Pilots not to take contracts.*

No pilot nor the crew of any pilot boat may take any contract to throw out ballast or to do any other work on board of any ship of which such pilot may have charge.

13. *Claims of pilots.*

All claims for pilotage fees or other services must be rendered to the consignee or to the agent of such consignee of any ship at the port of loading before such ship shall have cleared from the custom-house.

And in case of any disputed claim for half pilotage the bill for such claim must be rendered to the consignee or agent of such consignee at the first port of entry. And in case a pilot is obliged to leave his district to prosecute such claim, he shall, if he establish it, be entitled to remuneration at the rate of 10 shillings a day for time so spent.

14. *Pilot anchoring a vessel to have exclusive privileges.*

Any pilot anchoring a vessel in either of the ports or roadsteads of these islands shall have the exclusive privilege of removals or of being employed on day pay on board such vessel, and it shall be unlawful for the master or agent of such vessel to discharge such pilot and accept the services of another pilot without the consent of the pilot first in charge of such vessel, except in cases of emergency.

15. *Pilot to give time for the captain to communicate with the agent.*

Any pilot anchoring a vessel in either of the ports or roadsteads of these islands shall remain by such vessel a reasonable time (not to exceed one hour) to enable the master to communicate with his agent.

After a pilot has anchored a vessel in either of the ports or roadsteads of these islands, the master or agent of such vessel may engage the pilot to remain by his vessel on day pay, notice of such engagement to be given within a reasonable time, as above specified: *Provided, however*, That in the event of bad weather coming on after the pilot has been discharged, and while the vessel is lying at an anchorage, the master may engage a pilot to stay by his vessel on day pay, such engagement to hold good until the vessel leaves.

In all other cases the day pay must follow and continue from the anchorage or removal of a vessel.

16. *Pilot not to leave his place of residence.*

A pilot will not be permitted to leave his place of residence, except on duty, without permission being first obtained from the pilotage board at Grand Turk.

17. *Duty of pilots on proceeding to Cockburn Harbor.*

It shall be the duty of any pilot proceeding with a vessel to Cockburn Harbor (and if no pilot is in charge then it shall be the duty of the master) to run a hawser from the stern of the vessel to a lee buoy. If no buoy, then to put out a kedge to prevent the vessel swinging with the tide and coming into collision with the harbor buoys. Any master of a vessel impeding a pilot in this duty or neglecting to carry out this rule shall be liable to a penalty not exceeding £5, and the amount of the damage occasioned by such neglect.

And it shall be the duty of a pilot in charge to report to the chairman of the local pilotage board the nonobservance of this rule as soon as possible after the vessel anchors.

18. *Pilots to report passing vessels.*

Any pilot who speaks a vessel passing through the Passage shall, as soon as practicable, report the same at the custom-house or to the boarding officers at Grand Turk or Salt Cay.

19. *Limits within which vessels or hulks may be beached to be broken up at Grand Turk.*

The limits within which vessels or hulks may be beached to be broken up at Grand Turk under section 9 of ordinance 1 of 1888, are as follows:

At the North: Anywhere to the north of the southern wall of "Harris's" Plantation.

At the South: From 100 yards to the south of South Salina Canal to the north wall of Waterloo Plantation.

At the Hawks Nest: Not within 200 yards east or west of the shipping places, or within 200 yards of the entrance to the Southern Creek.

20. *Infringement of rules.*

A pilot guilty of any infringement of these rules shall be liable to a penalty not exceeding £50, recoverable as set forth in the twenty-sixth section of the pilotage ordinance No. 2, of 1879.

NOTE.—A copy of these rules, and the ordinances herein referred to, shall be furnished to each pilot free of expense. Further copies may be purchased by pilots, masters of vessels, or other persons, from the chairman of the pilotage board at each port in these islands.

Passed the board this 17th day of December, A. D. 1888.

J. C. CRISSON,
Chairman of Pilotage Board.

Approved.

H. M. JACKSON,
Commissioner.

GRAND TURK, *January* 7, 1889.

Schedule of fees payable to pilots for pilotage of vessels not otherwise provided for.

Anchoring in Grand Turk, Salt Cay, and Riding Place roadsteads, and Hawks Nest, Cockburn Harbor, and West Caicos.

	£	s.
From 50 and under 60 tons		10
From 60 and under 70 tons		12
From 70 and under 80 tons		14
From 80 and under 90 tons		16
From 90 and under 100 tons		18
For 100 tons	1	0

Over 100 tons and under 200 tons, one penny half-penny in addition for each ton. For 200 tons, £1 12*s.* 6*d.*

Over 200 tons, one penny in addition for each ton.

Outward pilotage to be one-half of inward pilotage except from Hawks Nest, when the outward pilotage shall be the same as inward.

Removals from one anchorage to another in the Turks Islands half of inward pilotage, except to and from Hawks Nest which shall be the same as the inward pilotage thereto.

Removals from one anchorage in the Caicos Islands or from any anchorage in Turks Islands to any anchorage in the Caicos Islands at the rate of full inward pilotage, unless the pilot be engaged on daily pay, such engagements to continue until the vessel is loaded. The master of the vessel to have the option of selecting under which method the pilot is to be paid, and to declare his selection before the removal is made.

A pilot shall receive pay at the rate of 9 shillings for every 24 hours when he is required to attend a vessel on day pay, for which sum he shall perform all duties that may be required of him as pilot, including removals and anchorages.

LYING BY.

Pilots entitled to 3 shillings per hour during the time of lying by, and anchorage fee when the vessel finally comes to an anchor.

DETENTION ON BOARD SHIP.

A pilot being detained on board ship otherwise than on duty by request of the master shall be entitled to receive 3 shillings for every hour he is detained.

Ordinance No. 1 *of* 1872.

[For Her Majesty's ships only.]

From and after the proclamation of the allowance by Her Majesty of this ordinance, or of the provisional assent thereto by his excellency the governor-in-chief, ordinance No. 3 of 1871 shall be and is hereby repealed.

2. It shall and may be lawful for any person licensed as a Queen's pilot under the pilotage laws of this colony to demand and receive for piloting a British war vessel into any port in the said colony at the request of such commander of the said vessel or out of such port at the like request the following fees, that is to say—

INWARDS.

For every vessel drawing not more than 8 feet of water, 40 shillings sterling.

For every vessel drawing more than 8 and not more than 14 feet of water, 70 shillings sterling.

For every vessel drawing over 14 feet of water or upwards 6 shillings for every foot additional.

OUTWARDS, OR FROM ONE PORT TO ANOTHER.

And for piloting any vessel out of any port of the colony to sea or to any other port in the colony or other anchorage therein one-half the above-named amounts for such pilotage.

3. And be it ordained that should the attendance of any such pilot be required daily on board such vessel of war he shall be entitled to demand and receive from the commander of such vessel of war so requiring his services, in addition to the above scale of fees, the sum of 8 shillings sterling per diem, and should he, the said pilot, be obliged to remain in quarantine in consequence of any such war vessel being placed in quarantine within this colony, he shall be entitled to have and receive the sum of 8 shillings sterling per diem, to be paid out of the public treasury of these islands by warrant in the usual manner, and shall be further entitled to be provided or supplied with the like provisions and accommodations as are supplied to the crew of such war vessel at the expense of Her Majesty's Government and in accordance with the regulations or rules of service of the royal navy of Her Britannic Majesty's naval service.

This ordinance may be cited for all purposes as the "law for regulating the fees of pilots serving as Queen's pilot in the colony on board of Her Majesty's vessels of war."

MELFORT CAMPBELL,
President.

Ordinance No. 2 *of* 1879.

Ordinance XI of 1861 shall be, and the same is hereby, repealed.

2. It shall be lawful for the commissioner to nominate and appoint at each port within these islands a board to be called "the pilotage board" of the port for which it is appointed, and such board of the port of Grand Turk shall consist of seven persons, of whom three shall form a quorum, and such boards of the other ports within these islands shall consist of such persons, not more than three in number, as the commissioner shall from time to time appoint, of whom one, to be nominated by the commissioner, shall be chairman; and the commissioner shall have power to remove any person so appointed, and to fill vacancies occurring in any such board, and all appointments to such boards under this ordinance shall be notified by public notice.

3. The Grand Turk pilotage board shall have authority from time to time to make general rules for the guidance of boards constituted under this ordinance and to make all needful rules and regulations for the government of pilots generally, and of masters of vessels (ordinance 6 of 1866), and all such rules and regulations, when approved of by the commissioner, shall have the force and effect of law and shall be printed for public information.

4. Every board, when any matter is coming before it requiring the advice of nautical persons experienced in the navigation of ships, or the advice of pilots or other nautical persons specially acquainted with particular ports, anchoring places, and channels, shall have power subject only to such rules as may be made under this ordinance, to call in two nautical persons to act as assessors to assist the board in dealing with such matter; and such assessors may be required by the board to give their opinion on any question involving matters of seamanship or pilotage, such assessors to receive as remuneration for their services the fee set forth in the schedule to this ordinance annexed, but the board shall exercise its own judgment as to the effect to be given to such opinion in the decision to be arrived at.

5. The said boards shall have the same powers to compel the attendance of witnesses as are conferred on justices of the peace by ordinance 6 of 1855, and are hereby authorized to examine on oath not only the witnesses, but the parties to the suit, whether plaintiff or defendant, and every person who shall at any sitting of the said board willfully insult any member of the board, or use violent or insulting language, or willfully interrupt the proceedings of the said board, shall be liable to a penalty not exceeding £5, to be recovered in a summary manner, or to be imprisoned for any period not exceeding 14 days.

6. It shall be the duty of the constables of the several police courts to serve all summonses, warrants, and executions issued by the said boards.

7. The said board of the port of Grand Turk shall have power to grant certificates as hereinafter mentioned, but each of the said boards of the several ports shall have the government and control of all pilots belonging to any port for which such board shall be appointed, and the superintendence of all business connected with the pilotage of such port, and of its anchoring places, and of the channels thereto.

8. Every person desirous of being examined shall make application to the board at Grand Turk, in writing, stating fully his name, age, birthplace, present residence, previous occupation, and shall make an affidavit that the boat to be employed by him in the pilotage service is the sole and exclusive property of himself, or of himself and other licensed pilots.

9. In each case of application for a pilot's license it shall be the duty of the board at Grand Turk to examine or cause to be examined by the government medical officer, if necessary, any candidate, in order that the said board may ascertain whether the eyesight and general physical condition of such candidate qualify him to perform the duties of a pilot; and such board shall have authority, subject to any rules made under this ordinance, and after a careful personal examination of the nautical abilities and local knowledge of the candidate at a sitting of the board, to grant a certificate that such candidate is in their belief a person of good character and of sober habits and is physically qualified and possessed of such nautical skill and such complete local knowledge as qualify him to take pilotage charge of ships and steamers of the largest size and greatest draft of water that enter the ports or anchorage places within these islands—such certificate may be in the form A in the schedule to this ordinance annexed; and after granting such certificate, the board shall transmit it, with a report of the case, to the commissioner: *Provided*, That such examination shall not be held until the candidate shall have paid, in the manner that may be prescribed by rules made under this ordinance, the examination fees fixed in the schedule to this ordinance.

10. On receiving a pilot's certificate the commissioner may, on payment of the fee set forth in the schedule to this ordinance annexed, grant a pilot's license to the applicant, in conformity with the certificate, or may withhold the same until further inquiry and examination be made. The commissioner's license granted under this section may be in the form B in the schedule to this ordinance annexed, with such variations as may be necessary.

11. A pilot's license under this ordinance shall have effect from the date of granting the same till June 30, in the year after which it is granted, and unless superseded by a new license shall have effect for one calendar month thereafter; *Provided*, That whenever an order suspending a pilot's license is made, such license shall cease to be of any effect during the term of suspension; and that whenever a pilot's license is revoked, such license shall cease to have any effect whatsoever.

12. It shall be lawful for the commissioner annually to renew licenses, on application being made by the holder of such license through the board, and on payment of the renewing fee fixed in the schedule of fees to this ordinance annexed; *Provided*, That no license shall be thus renewed unless the board shall grant a certificate as provided for by the ninth section in the case of an application for an original license.

13. Security shall be given by a pilot in the form of a bond to the Queen in such amount as shall be fixed by the rules to be made under this ordinance, or, if not fixed by such rules, as the board shall fix, with two or more sureties to be approved of by the board to answer any damages or expenses which may be occasioned by the unskillfulness, negligence, or misconduct of such pilot, and such bond shall be in such form as the commissioner may from time to time direct; and it shall be the duty of the board annually to revive the securities given under this ordinance, and whenever at such annual revision, or at any other time, the board shall come to the conclusion that the security bond of a surety has become or is insufficient, they shall call upon the pilot for whom such security has been given to obtain other and sufficient security; and if he fail to do so within one month it shall be the duty of the said board to report the matter to the commissioner, who shall thereupon suspend the license of the said pilot until such fresh security shall be given as shall be to the said board satisfactory.

14. Every pilot shall forthwith provide himself with a proper boat, to be approved of by the board, and at all times keep and preserve such boat in good order, pro-

perly manned and equipped for service, as may be required by the rules made under this ordinance, provided that the rules may allow two or more pilots to use one boat jointly, and shall when cruising for or proceeding towards any vessel display the pilot's flag with his number on it, and shall as soon as he has taken pilotage charge of any vessel cause the said flag to be displayed in some conspicuous part of such vessel.

15. Every person, whether he has once held a valid pilot's license or not, who shall pilot any vessel in contravention of the provisions of this ordinance shall be liable to a penalty not exceeding £50; *Provided*, That it shall be lawful for all pilots now holding valid licenses under ordinance 11 of 1861 to continue to pilot vessels in accordance with such licenses until the 30th day of June next after the date of this ordinance coming into operation, unless their licenses shall be previously revoked under this ordinance, but no longer.

16. Every pilot shall upon receiving his license be furnished with a copy of this ordinance, together with a copy of the rules and regulations made under this ordinance; and he shall produce such copy of the rules and regulations to the master of any ship, or other person employing him, under a penalty in case of default not exceeding £5.

17. Every pilot, while acting in that capacity, shall be provided with his license, and produce the same to every person by whom he is employed or to whom he tenders his services as pilot; and if he refuses to do so at the request of such person he shall incur for each offense a penalty not exceeding £10.

18. Any pilot who may be employed working at a wreck, refusing or neglecting to proceed to any vessel requiring and signaling for the services of a pilot, shall forfeit and pay upon conviction any sum not exceeding £10 and also forfeit all salvage to which he may be entitled.

19. There shall be paid by the master, or if not paid by him, then by the consignee of any vessel, to the pilot for pilotage thereof pilotage fees at the rate mentioned in the schedule annexed to Ordinance No. 1 of 1858, and such fees may be recovered against either of the parties aforesaid by action at law: *Provided, however*, That an account of such pilotage fees so due be rendered to the consignee of such vessels previous to her dispatch from the first port of call, or a certificate from the captain of the services rendered be presented to the consignee at any time within three months.

20. No master of any vessel shall be compelled to accept the services of a pilot: *Provided, however*, That the resident pilot of any port within these islands who shall offer his services without the roadstead or anchoring places of such port to any master of a vessel bound thereto and not having a duly qualified pilot already on board, such pilot, notwithstanding his services being rejected, shall be entitled to receive from such master, one moiety of the fee legally chargeable for conducting such vessel into the said port or other anchoring place.

21. It shall be lawful for the said boards in their respective ports, and they are hereby empowered, to make a formal inquiry in every case of misconduct or neglect of any pilot or when any vessel under pilotage charge may be wrecked, put on shore, or otherwise damaged whilst such pilot is in charge of such vessel, and on conviction, such pilot shall be liable to a penalty not exceeding £50; and whenever an inquiry is made by a pilotage board under this section, it shall be the duty of the board to pronounce their opinion as to whether or not the conduct of the pilot in the matter which has been the subject of inquiry under this section requires that his license be suspended or revoked, and the said board shall report the facts of the case and their opinion to the commissioner, who may thereupon suspend or revoke the license of any such pilot.

22. No pilot, except under circumstances of unavoidable necessity, shall without his consent be taken to sea or beyond the limits for which he is licensed; and every pilot so taken under circumstances of unavoidable necessity or without his consent or shall be detained on board of any vessel in consequence of any quarantine regulation, shall be entitled over and above his pilotage to the sum of 10 shillings a day, to be computed from and inclusive of the day on which such ship passes the limit to which he was engaged to pilot her up to and inclusive of the day of his being returned in the said ship to the place where he was taken on board, or up to and inclusive of such day as will allow him, if discharged from the ship, sufficient time to return thereto; and in case of quarantine 10 shillings a day for each day of detention in quarantine.

23. Any pilot demanding or receiving, and also any master or agent paying to any pilot any other rate in respect of pilotage services, whether greater or less, than the rate for the time being demandable by law shall for each offense incur a penalty not exceeding £10.

24. If any pilot commits any of the following offenses, that is to say—

(1) Lends his license.

(2) Acts as pilot whilst suspended.

(3) Acts as pilot when in a state of intoxication.

(4) Refuses or wilfully delays, when not prevented by illness or other reasonable causes, to take charge of any ship within the limits of his license upon the signal for a pilot being made by such ship or upon being required to do so by the master, owner, agent or consignee thereof or by any principal officer of customs.

(5) Refuses on the request of the master to conduct the ship of which he has the charge into any port or place with which he is qualified to conduct the same, except on reasonable ground of danger to the ship.

(6) Quits the ship of which he has the charge without the consent of the master, before the service for which he was hired has been performed, except on the ground of illness or other reasonable causes.

(7) Obtains or endeavors to obtain, directly or indirectly, by himself or by means of any other person, from the owner, master, or supercargo or other person on board of any ship any preference to be given to himself or to any other person or persons, either in the sale of salt or in the agency or consignment of any ship, or in any matter of business or work connected with or relating to commerce.

He shall for each such offense, in addition to any liability for damages, at the suit of the person aggrieved, incur a penalty not exceeding £50; and every person who procures, abets, or connives at the commission of any such offense shall likewise, in addition to any such liability for damages as aforesaid, incur a penalty not exceeding £50.

25. The boarding officers at the several ports shall be supervisors of pilots, and it shall be their duty to bring under the notice of the board any instances of misconduct or neglect on the part of such pilots or any accident to any vessel while in charge of a pilot.

26. All penalties under this ordinance or under rules made under this ordinance may be tried and determined before the police or assistant police magistrate when the penalty shall be under the sum of £20; and all penalties over £20 may be recovered by the same associated with two other justices of the peace; and in all cases of conviction under this ordinance where a penalty is inflicted, the same may be levied upon the goods and chattels of the offender, and in default thereof the offender may be imprisoned for any period not exceeding 6 months, unless such penalty and costs be sooner paid.

27. All penalties when recovered shall be reserved for the use of Her Majesty, her heirs and successors, and shall be paid into the public treasury of these islands in aid of the support of the government of the same.

28. This ordinance may be cited as the pilotage ordinance, 1879, and shall come into operation as soon as Her Majesty's confirmation thereof, or the provisional assent thereto of his excellency the governor-in-chief or other person administering the government of Jamaica shall have been proclaimed within these islands.

R. B. LLEWELYN,
President.

SCHEDULE A.—*Pilot's certificate.*

TURKS AND CAICOS ISLANDS,
Port of Grand Turk, ———, ———.

No. ———.

This is to certify that in pursuance of the "pilotage ordinance, 1879," we, whose names are hereunto subscribed, members of the pilotage board of the port of Grand Turk, have made all necessary inquiries respecting [here enter name of candidate], a resident of [here insert name of the port or place where the candidate resides], and have carefully and personally examined the said [here enter the name of the candidate] to ascertain his skill and ability in the navigation of sailing vessels and steamers, and his knowledge of the ports, harbors, and anchoring places within these islands, and of the channels leading thereto and of the rocks, shoals, and dangers therein; and that in our belief he is a person of good character and of sober habits, and is possessed of sufficient nautical skill to be put in pilotage charge of vessels and steamers of the largest size and greatest draft of water entering the said ports, harbors, and anchoring places, and has such complete local knowledge as is requisite for a thoroughly good pilot for the ports of the Turks and Caicos Islands.

Given under our hands at Grand Turk the ——— day of ———, 18—.

SCHEDULE B.—*Pilot's license.*

No. ———.

On the certificate of the pilotage board of Grand Turk and my approval thereof, these are to license ——— ——— to act as pilot for the ports and anchorages within the Turks and Caicos Islands from the ——— day of ———, 18—, to the 30th day of June, 18—, as authorized by the "pilotage ordinance, 1879."

Given under my hand and seal this ——— day of ———, 18—.

———, ———,
Commissioner.

FEE PAYABLE UNDER THIS ORDINANCE FOR EXAMINATION AND LICENSE.

	£	s.
For each examination under section 9		5
Assessor's fee for each meeting, per diem, under section 4		10
For the license of a pilot:		
Every pilot's original license	3	
Each renewal of license		10

Ordinance No. 5 *of* 1884.

[To regulate the boarding of vessels arriving at these islands.]

It shall not be lawful for any person except a licensed pilot or the health officer to go on board any vessel arriving at these islands, nor to communicate with any person on board of such vessel or for any person on board of any such vessel to land until permission has been granted for such purpose by a revenue officer.

2. If any vessel arrives here for orders as to what port she is to go or has to anchor at the "Riding Place" or "Hawks Nest" on account of stormy weather, the pilot may land if desired by the captain, and bring a letter to the consignee of such vessel and a report from the captain, but the pilot shall first before delivering any such letter bring the report to the custom-house during office hours or to the boarding officer if the custom-house is closed.

3. Any person infringing any of the provisions of this ordinance shall be liable to a penalty not exceeding £10.

4. All penalties under this ordinance shall be recovered in a summary way before the police or assistant police magistrate in accordance with the provisions of ordinance No. 6 of 1855, and every person convicted shall have the right of appeal to the supreme court.

5. Ordinance No. 11 of 1860 and No. 2 of 1864 are hereby repealed.

R. B. LLEWELYN,
President.

Ordinance No. 6 *of* 1886.

The power vested in the Grand Turk pilotage board by section III of Ordinance No. 2 of 1879, to make rules for the general government of pilots, shall extend to and include the making of all needful rules and regulations for the government of the masters of vessels or persons in charge of the same visiting these islands.

H. M. JACKSON,
President.

Ordinance No. 1 *of* 1888.

1. When from sickness or temporary absence of any of the licensed pilots, or from any other cause whatsoever, the number of licensed pilots shall be found to be insufficient, it shall be lawful for the commissioner or for the assistant commissioner at Salt Cay and Cockburn Harbor to issue temporary licenses to such persons as may be recommended by the pilotage boards; such licenses to be valid for 4 weeks from the date of issue, subject to renewal if necessary, and to be granted without the payment of any fee whatever.

2. The schedule of fees annexed to Ordinance No. 2 of 1879 shall be, and the same is hereby, repealed, and there shall be substituted therefor the schedule annexed to this ordinance, and the fees charged in the said schedule hereto annexed shall be paid as laid down in section 19 of the said ordinance.

3. All steamers employed to convey public mails to these islands, not requiring or accepting the services of a pilot, shall not be compelled to pay any pilotage fees.

4. No vessel coming within the limits of the roadsteads at the different ports as fixed by the general pilotage board without being hailed by a pilot shall be compelled to accept the services of a pilot, or to pay any pilotage fees in case of her master refusing to accept such services, provided that it be shown to the satisfaction of the pilotage boards that the vessel had actually come within such limits before being hailed.

5. It shall be the duty of the boarding officers at the several ports within these islands to prevent any injuries being done by any persons to any of the harbors, boat

harbors, or anchoring places of the colony, and to cause persons offending against the laws made for such purpose to be proceeded against; and to cause all hulks and parts thereof or of any other nuisances which may obstruct the navigation of such harbors, or prove injurious to the wharves and piers or shipping places near the shore, to be removed.

6. When any such nuisance shall come to the knowledge of any boarding officer, it shall be his duty to require the owner thereof to cause the same to be removed within 10 days, and if at the expiration of such period such nuisance be not removed, it shall be the duty of the boarding officer to cause the same to be removed, and to sell and dispose of the materials thereof at public auction, and after paying all the charges of such removal, together with 5 per cent. on the amount of sales for his trouble, shall pay the surplus, if any, into the public treasury: *Provided*, That in the case of any such hulks not forming an impediment to navigation, a further period not exceeding 6 months for removing or breaking up the same shall be allowed, at the discretion of the commissioner.

7. If no owner of such a nuisance can be found, it shall be the duty of the boarding officer to cause the same to be removed in manner aforesaid, and the surplus, if any, shall be paid into the public treasury.

8. If it should happen that the sale of the materials as aforesaid shall not produce a sum equal to the expense incurred as aforesaid, the owner shall be held liable for the deficiency, and the amount shall be sued for and recovered by the boarding officer of the port in any court of competent jurisdiction.

9. When any vessel or hulk afloat is intended to be broken up, it shall not be lawful to break up such vessel or hulk or to beach or ground the same for the purpose of being broken up, anywhere except within the limits for that purpose appointed from time to time by the pilotage boards at the different ports, under a penalty not exceeding £50 for every such offense.

10. This ordinance may be cited as the pilotage amendment ordinance of 1888.

H. M. JACKSON,
President.

DANISH WEST INDIES.

ST. THOMAS.

REPORT BY CONSUL TURNER.

PILOTAGE.

Pilotage is not compulsory. Pilot charges are the same for vessels of all countries, Danish included, no foreign flag enjoying any special privileges in this respect. Vessels in distress and foreign war vessels pay pilotage when a pilot is taken.

Rates of pilotage at St. Thomas when pilot is taken.

STEAMERS.

Draft.	Line running regularly to St. Thomas.		With general cargo or coming to take cargo, not belonging to regular line.	
	Day.	Night.	Day.	Night.
12 feet	$4.00	$6.00	$6.00	$8.00
12 to 16 feet	5.00	8.00	8.00	12.00
16 to 20 feet	8.00	12.00	12.00	18.00
20 to 24 feet	12.00	16.00	18.00	24.00
Over 24 feet	16.00	20.00	24.00	32.00

Rates of pilotage at St. Thomas when pilot is taken—Continued.

SAILING VESSELS.

Draft.	Inward by day.	Outward by day.
Up to 10 feet	$2.00	$2.00
10 to 12 feet	3.00	2.00
12 to 14 feet	4.00	3.00
14 to 16 feet	5.00	3.50
16 to 18 feet	6.00	4.00
18 to 20 feet	7.00	5.00
20 to 22 feet	8.00	6.00
22 to 24 feet	10.00	7.00
Over 24 feet	15.00	10.00

LIGHTS AND LIGHT DUES.

Light dues are paid at the rate of 1 cent per registered ton on vessels of 50 tons and upward, with no exemption or variation with regard to any flag, excepting vessels engaged in the regular trade between the Danish West India Islands, in which case there is total exemption. Vessels going from this port to Santa Cruz pay whatever may be the light dues at each port in that island.

The light here is of the fifth class. Kerosene oil is used. It is 118 feet above the sea level, and is visible about 14 miles. Light dues are collected through custom-house.

TONNAGE DUES.

There are no tonnage dues, they having been abolished in 1885.

QUARANTINE.

The rules of quarantine are stated in chapter IV of the ordinance transmitted herewith. The diseases quarantined are cholera, smallpox, and yellow fever. Duration of quarantine is sufficient time to make up 16 days from last port or 16 days from the date of last death on board. The vessels bear the expenses of fumigation and detention, and in case passengers for this place are placed in the lazaretto they pay all charges connected therewith; otherwise the vessel pays when passengers have no money to pay with. Quarantine rules are established by the municipality and government, the latter taking full charge and superseding the former if necessary.

When the health officer is ordered to make inspection on board a vessel in consequence of death or disease having occurred on board during the voyage, or of its coming from an infected or suspected port, quarantine fees shall be paid as follows:

By a ship, or any other three-masted vessel, brig, brigantine, or by any steamer of 200 tons and upwards, $5; by a two-masted schooner, sloop, or smaller vessel, $3. If it is found necessary to place the ship under quarantine observation of some duration, or under quarantine for the purpose of discharging and disinfection, the following further charges will eventually be made: Say for the health officer's additional visits, fees as above specified; for quarantine guard on board, not more than $1 per day for each person and board as one of the crew, and for materials for fumigation, etc.

The above quarantine fees, say, of $5, shall be reduced to $3, and of

$3 to $2 as soon as a vacancy occurs in the present post of health officer, which fees shall then accrue to the colonial treasury at the same time as the health officer is placed on a fixed salary.

MORTIMER A. TURNER,
Consul.

UNITED STATES CONSULATE,
St. Thomas, August 26, 1889.

FREDERIKSTED.

REPORT BY CONSULAR AGENT MOORE.

PILOTAGE.

Frederiksted being an open roadstead, without any reefs or dangerous approaches, pilots are unnecessary.

LIGHT DUES.

There are none. There are but two small lamps on posts at the landing bridge for passengers, that may be seen in clear weather, say, 3 miles from the shore.

TONNAGE DUES

Are collected from all classes of vessels with cargo. No discrimination in regard to flag.

QUARANTINE.

The General Government controls the management through commissioners appointed directly by it. There are no printed regulations.

Cholera and smallpox are the principal diseases quarantined, and duration of quarantine is 16 days from date of departure from infected ports. In all other respects the rules followed are those of other nations.

WM. F. MOORE,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Frederiksted, August 15, 1889.

SANTA CRUZ.

REPORT BY CONSULAR AGENT TAYLOR.

PILOTAGE.

Pilotage is not compulsory, but when pilots are not employed one-half the pilotage is charged. American and Danish vessels pay $1 per foot; all others pay $1.28 per foot.

Vessels in distress and foreign war vessels pay pilotage.

LIGHT DUES.

No light dues charged. Kerosene lamps are used and are located on point near entrance of harbor, about 60 feet above sea level; visibility, about 7 miles.

TONNAGE DUES.

Vessels belonging to the island when coasting do not pay tonnage dues. All other vessels pay, unless in ballast, when no tonnage dues are collected.

QUARANTINE.

Vessels from any port other than a Danish West India port are subject to quarantine inspection. Vessels from a suspicious port are liable to quarantine. Cholera, smallpox, yellow fever, 14 to 16 days, calculated from day of sailing from last port or day of removal of last case of disease from on board.

The vessel bears all expenses.

Quarantine regulations are established by Government conjointly with quarantine commission.

The General Government can take charge and supersede the municipal authority.

There is a fort fee paid by every vessel entering the harbor, irrespective of flag, except coasting vessels belonging to the Danish islands.

The fee is as follows:

Open boats	$0.16
Small schooners	.64
Brigs	1.28
Barks	2.56
Sloops	.32
Two-masted schooners	1.28
Three-masted schooners	2.56

JOS. L. TAYLOR,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Santa Cruz, August 15, 1889.

DUTCH WEST INDIES.

CURAÇAO.

REPORT BY CONSUL SMITH.

PILOTAGE.

Vessels entering this harbor are obliged to pay pilotage at the following rate. Exempted therefrom are men-of-war, vessels belonging to this colony (St. Martin, St. Eustatius, Saba, Bonaire, and Aruba) and vessels of less than 7.77 tons (22 cubic metres).

MEN-OF-WAR.

In and out St. Anna Bay:	
Ironclads	$24.00
Frigates and first-rate vessels	20.00
Steamships, second rate	16.00
Steamships, third rate	12.00
Steamships, fourth rate	8.00
Smaller vessels	6.40

In addition to the above are paid for piloting men-of-war in and out the Schottegat:

Ironclads	$12.00
Frigates and first-rate vessels	10.00
Steamships, second rate	8.00
Steamships, third rate	6.00
Steamships, fourth rate	4.00
Smaller vessels	2.00

MERCHANT VESSELS.

Steamships.

In and out St. Anna Bay and Schottegat:	
From 1,250 tons upward	$30.00
From 800 to 1,250 tons	26.00
From 400 to 800 tons	22.00
Less than 400 tons	12.00

Sailing vessels.

In and out St. Anna Bay, per foot draft:	
From 7.77 to 23.30 tons	.26
From 23.30 to 46.95 tons	.35
From 46.95 to 78 tons	.44
From 78 to 156.38 tons	.52
From 156.38 tons upward	.70
In and out the Schottegat, per foot draft additional:	
From 78 tons upwards	.33⅓
From 46.95 to 78 tons	.23⅓
Less than 46.95 tons	.16⅔

LIGHTS AND LIGHT DUES.

A light due of 5§ cents per ton is charged on vessels entering this harbor. Men-of-war, packets, vessels belonging to this colony of less than 7.77 tons, steamships regularly touching at one of the islands of this colony, and open sail and row boats are not required to pay light dues.

Vessels of this colony pay light dues once in 3 months; other vessels, every trip.

Light is white fixed; altitude 40 feet; visible 5 miles.

TONNAGE DUES.

With the exception of men-of-war, packets, whalers, vessels leaving this port 72 hours after arrival without discharging or taking in cargo, vessels entering in ballast to load salt, vessels in distress, steamers regularly touching at one of the islands of the colony, and open sail and row boats, all vessels are required to pay tonnage dues.

	Cents.
Vessels belonging to this colony, once in 3 months, per ton	13½
Other vessels:	
To 17.65 tons, do	6¾
18 to 35 tons, do	8
36 to 70 tons, do	11½
70.60 upwards, do	13½

Dues are collected from masters or agents direct.

QUARANTINE.

Vessels before entering are required to produce bill of health, and masters must answer to some questions put to them by the pilot.

Diseases quarantined are Asiatic cholera, plague, typhus, yellow fever, smallpox, scarlet fever, and diphtheritis.

Duration of quarantine is fixed according to circumstances. Expenses are borne by the vessel.

Quarantine rules are established by the governor, in consultation with the board of health.

L. B. SMITH,
Consul.

UNITED STATES CONSULATE,
Curaçao, August 28, 1889.

FRENCH WEST INDIES.

GUADELOUPE.

REPORT BY CONSUL BARTLETT.

PILOTAGE.

Since the 1st of April last pilotage has become compulsory for vessels of all nationalities, excepting droghers. Prior to April 1 the pilots were paid by the Government, but at present they are paid by vessels.

I have been informed by the director of the interior that at the forthcoming session of the general council, which is to take place in December next, they will vote to have the pilots paid by the administration for their services, thereby making pilotage free again.

The following is a schedule of pilotage:

	Francs.
15 to 30 tons	10.00
30 to 60 tons	30.00
60 to 80 tons	60.00
80 to 100 tons	78.75
100 to 150 tons	118.12
150 to 200 tons	144.37
200 to 250 tons	170.62
250 to 300 tons	196.87
300 to 350 tons	223.12
350 to 500 tons	249.57

Above 500 tons, 50 centimes per ton.

Pilot charges are the same for vessels of the country in which you reside as well as for foreign vessels. No foreign flag enjoys special privileges in this regard. Vessels in distress and foreign war vessels pay pilotage.

LIGHTS AND LIGHT DUES.

There are no light dues.

Light statistics are as follows:

Moule light.—Situated 10 metres from the signal staff of the harbor, in latitude 16° 16′ 34″ N., longitude 68° 48′ 20″ W. from the meridian of Paris. The light is a fixed white light, elevated 14 metres above the level of the sea, and can be seen at a distance of 7 miles, the eye being 3 metres above the level of the sea. This light is a guide to the entrance of the port. Ships in the offing should get the light to bear SSW., and keep that bearing under short sail, so as to be ready to receive a pilot at daylight.

Petite-Terre light.—Upon the Terre de Bas, one of the islets of Petite Terre, and 180 metres from its eastern point, is the light called Petite Terre, which is a fixed light, and is situated to the southward of the

western point of Desirade, in latitude 16° 10′ 20″ N., and longitude 63° 25′ 16″ W. from the meridian of Paris. It is 33 metres above the level of the sea, and is visible 15 miles, and also serves as a guide for vessels passing through the channel between Dominica and Guadeloupe.

Grand Bourg light.—Situated on the Island of Marie-Galante, 50 metres to the eastward of the pavilion of the fort, and its elevation is 14 metres above the level of the sea, in latitude 15° 52′ N., and longitude 63° 39′ 07″ W. from the meridian of Paris. It is a fixed white light, lighting up that portion of the horizon seen in the offing, and serves to mark the entrance to the harbor, and can be seen at the distance of 7 miles, the eye being 3 metres above the level of the sea.

Vessels coming from the east or west must get the light to bear NE. ¼ E., and keep this bearing at 1 mile from the shore to be ready to take a pilot at daylight.

Gosier new light.—Situated on the island of that name, and elevated 24 metres above the level of the sea, in latitude 16° 14′ 7″ N., and longitude 63° 48′ 54″ W. from the meridian of Paris. The light is a fixed white light, lighting all the southern and western parts of the horizon, and can be distinctly seen at a distance of 12 miles, the eye being elevated 3 metres above the level of the sea. The light on the Island of Gosier is a beacon to guide vessels along the coast of St. François and Ste. Anne, and the island is the rendezvous for the Pointe-à-Pitre pilots.

Pointe-à-Pitre lights.—The first is situated on the Island of Monroux, at the entrance of the harbor of Pointe à Pitre, and is elevated 16 metres above the level of the sea, and is visible 7 miles, the eye being 3 metres above the level of the sea. The light is a fixed white light, and lighting the entire horizon.

The second is situated on Fouillol and elevated 25.6 metres above the level of the sea. It is a fixed red light. Vessels running down from Gosier light will get the light on Monroux Island and the light on Fouillol in range, which will carry them through Mouchevir-Carré Channel.

Sainte Marie Capesterre light.—A red lantern is placed on a buoy situated at the entrance of the channel. A fixed white light placed at the extremity of la Caye-Sautée, is elevated 2.5 metres above the level of the sea. A fixed white light situated on shore, at the end of the Colonial jetty, is 6 metres above the level of the sea, and can be seen at a distance of 3 miles. These three lights form a triangle, and vessels coming from sea must steer in the center SSW. Spar buoys are placed all along the channel to indicate the entrance of the port.

Basse-Terre light-houses and lights.—Basse-Terre light is a red fixed light, placed between the two pavilions used as the office and depot of the port, 9 metres and 50 centimetres from the beach; its height is 13 metres above the level of the sea, and it is in latitude 15° 59′ 8″ N., longitude 64° 4′ 44″ W. from the meridian of Paris. It is visible 7 miles, and lights all that part of the western horizon between the Pointe-du-Vieux Fort on the south and that of the Rivière-des-Pères on the north.

A lantern showing a red light is placed at the end of the Government wharf. Ships coming in to anchor will keep these two lights in range, and will pass very near and to the southward of a large iron buoy, anchored in 35 fathoms of water. This buoy was anchored there on the 20th of June, 1876, for the use of the English and French mail steamers, and on which a pale green light is placed the night that steamers are expected, and is at a distance of 300 metres from the lantern on the end of the pier.

Anse à la Barque light.—A fixed red light, 21 metres above the level of the sea, is placed on the northern headland of the entrance. A fixed white light, 6 metres in height, is placed on the shore in the interior of the bay. The Anse à la Barque is about 6 miles north of Basse-Terre, and is a refuge for vessels during hurricanes.

Port Louis light.—A fixed white light established on the northern end of the harbor, situated in front of the church, latitude 16° 25′ 08″ N., and longitude 63° 51′ 45″ W. from the meridian of Paris, is a guide to vessels coming from Pointe-à-Pitre and the Canal.

A resolution was passed at the last session of the General Council to erect a light-house on the northeast end of the island of Desirade, but up to the present they have failed to vote the necessary funds for its construction.

TONNAGE DUES.

There are no tonnage dues, therefore there is no discrimination in regard to flags, and vessels of all nationalities enjoy same privileges.

QUARANTINE REGULATIONS.

Vessels having a clean bill of health from the French consul of their port of departure, or if no French consul, a clean bill of health from the authorities of the port and a certificate specifying that there is no French consul at said port, and there having been no sickness on board during the voyage, are admitted to free pratique.

If from an infected port, the vessels and their passengers are obliged to go to the Saintes to ride out their quarantine.

If a vessel does not wish to communicate, but merely to discharge cargo and land passengers, the cargo is sent to the Island of Cosson, where it is fumigated and the passengers sent to the lazaretto at the Saintes. If not from an infected port they are placed under observation for 3 days.

The diseases quarantined are yellow fever, smallpox, and cholera.

Duration of quarantine for each and from each port, about 23 days from the last case, from whatever infected port the vessel may be.

The ship bears the expenses for her fumigation; the cargo, same; and the passengers their own expenses at the lazaretto. The rate of expenses is from 1 to 7 francs per day, according to accommodations.

Quarantine regulations are established by the general administration of the colony, headquarters at Basse-Terre.

CHARLES BARTLETT,
Consul.

UNITED STATES CONSULATE,
Guadeloupe, August 13, 1889.

MARTINIQUE.

REPORT BY CONSUL GARESCHÉ.

PILOTAGE.

Pilotage, so far as the payment therefor is concerned, is compulsory for all vessels, French and foreign, except the coasting vessels of this island. Pilot charges are the same for vessels coming from France and from foreign ports. The exceptions made are in favor only of the

steamers of Le Compagnie Générale Transatlantique, the British Royal Mail, and the United States and Brazil Mail Steamship Company, the last named having been lately exempted through my efforts.

Vessels in distress and foreign war vessels pay no pilotage.

LIGHTS AND LIGHT DUES.

These dues are payable in every port touched during the vessel's voyage. They are payable whether there is or is not a light.

General character of lights as follows:

At Fort de France: Light-house of Point des Nègres, a fixed white light visible at furthest distance 6 miles. Light-house of Fort St. Louis, a fixed red light towards the sea, and white towards both sides of the land to the NE. and to the WNW.; furthest distance visible, 4 miles. A light at the landing of the roadstead des Flamands, red facing the sea and white facing the land; furthest distance visible, 4 miles. Light at the landing of the Carénage, red facing the sea, white towards the land, visible at 3 miles. Lights are placed on the buoys to guide vessels coming in or going out of the Carénage grounds during the night.

At St. Pierre: Light-house at the Place Bertin has a red light, in latitude 14° 44′ 30″ N., longitude 63° 31′ 20″ W., at a height above the ground or shore level of 16½ metres, and above sea level of 17¼ metres, visible at a distance of 9 miles. Light house of Fort Ste. Marthe, two superimposed lights, the upper white, the lower green, visible at a distance of 2 miles.

American and other foreign vessels pay the same light dues as French vessels, viz, 20 francs in all, which amount is collected through the custom-house. There is no discrimination in favor of or against American vessels, save that the steamers of the United States and Brazil Mail Steamship Line are exempt from the payment of light dues.

Martinique charges all shipping light dues alike, the only exceptions to the general rule being the steamers of the Compagnie Générale Transatlantique, the British Royal Mail, the United States and Brazil Mail Steamship Line, and the coasters of the island voyaging from port to port in the island.

TONNAGE DUES.

Tonnage dues are collected on all classes of vessels when laden, save coasters of the island going from port to port in the island. There is no discrimination as to flag. Special privileges are not enjoyed by vessels of any nationality save the three lines of steamers already alluded to.

QUARANTINE.

There are no regular rules as to quarantine, nor any specified list of diseases to be quarantined. Quarantine is imposed according to the exigency of the case by the board of health ("conseil de santé de la colonie") composed of two physicians and one druggist, at Fort de France. The duration of quarantine varies according to circumstances, and the opinion of the board of health. The vessels bear the expenses of detention and fumigation as to passengers and cargo.

Quarantine rules are, as already stated, established by the board of health at Fort de France, the seat of government.

WM. A. GARESCHÉ,
Consul.

UNITED STATES CONSULATE,
Martinique, August 15, 1889.

SPANISH WEST INDIES.

HAVANA.

REPORT BY CONSUL-GENERAL WILLIAMS.

PILOTAGE.

Pilotage is compulsory in all cases for vessels entering the port of Havana.

The regularly licensed pilots of this port are 10 in number. They meet vessels at the distance of a mile from the harbor, but more frequently at the entrance, in boats painted black with a white P on the bows; the flag is a square blue flag with a white P.

Pilotage charges, inward and outward, for Spanish and foreign vessels are from $5 for 50 tons gross measurement to $32 for 5,000 tons and upwards, according to the schedule of fees herewith accompanying.

Spanish vessels making periodical trips between one or more ports of Spain, Europe, Africa, Cuba, or Porto Rico are exempted from taking a pilot to enter or leave this port, provided there be among the officers on board one holding a regular pilot's license, and who has not been absent from the port over 30 days.

Vessels engaged in the coasting trade, and sailing vessels of less than 50 tons burden, are also exempt.

Vessels in distress and foreign vessels of war pay pilotage fees.

Pilotage charges for anchorage dues, shifting of vessels' berths, or anchoring ground in port, are $2 per 100 tons gross to $6 for 4,000 tons and upwards, according to the schedule of fees herewith.

From the 26th of August last, the *Ponton*, or guardship, formerly stationed at the mouth of the harbor to watch over the departure of vessels, has been removed, and the "pass for the guardship," hitherto asked for of the captain of the port, upon consular clearance of vessels, has been suppressed.

The document now required upon clearing a vessel is the consular application for a pilot, and the name of vessel, master, destination, tonnage, and number of persons on board must be stated therein.

TONNAGE DUES.

No tonnage dues are collected on vessels; in place thereof receivers or shippers of merchandise pay a tax of $1, Spanish gold, per ton of 1,000 kilogrammes, on all cargo received or shipped, except coals and ore; the latter pays 5 cents per ton.

Spanish coasting steamers pay a port charge of $17, Spanish gold, per month for dredge dues; tugboats pay $5.30 per month.

An import duty on all merchandise, except coals, is also collected here of 25 cents per ton of 1,000 kilogrammes, for the improvement of the harbor of Havana.

Official tariff of pilotage fees and anchorage dues (gross), inward and outward, for national and foreign vessels, which went into effect in the port of Havana on the 1st of March, 1886.

PILOTAGE FEES.

50 tons	$5.00
51 to 100 tons	6.00
101 to 150 tons	7.00
151 to 200 tons	8.00

201 to 250 tons	$9.00
251 to 300 tons	11.00
301 to 350 tons	13.00
351 to 400 tons	15.00
401 to 450 tons	17.00
451 to 500 tons	18.00
501 to 600 tons	19.00
601 to 700 tons	20.00
701 to 800 tons	21.00
801 to 900 tons	22.00
901 to 1,000 tons	23.00
1,001 to 1,250 tons	24.00
1,251 to 1,500 tons	25.00
1,501 to 2,000 tons	26.00
2,001 to 2,500 tons	27.00
2,501 to 3,000 tons	28.00
3,001 to 3,500 tons	29.00
3,501 to 4,000 tons	30.00
4,001 to 4,500 tons	31.00
4,501 to 5,000 tons and upwards	32.00

ANCHORAGE DUES.

51 to 75 tons	$2.00
76 to 100 tons	2.25
101 to 150 tons	2.50
151 to 200 tons	2.75
201 to 300 tons	3.00
301 to 400 tons	3.50
401 to 500 tons	4.00
501 to 1,000 tons	4.50
1,001 to 1,500 tons	5.00
1,501 to 2,000 tons	5.50
2,001 to 2,500 ton	6.00
2,501 to 3,000 tons	6.50
3,001 to 3,500 tons	7.00
3,501 to 4,000 tons	7.50
4,001 to 4,500 tons	8.00
4,501 to 5,000 tons and upwards	8.50

NOTES.

1. Fees for pilotage and anchorage dues of vessels shall be paid exclusively in accordance with the total or gross tonnage of the vessel, and hour, according to the foregoing schedules.

2. Spanish vessels which make periodical trips between one or more ports of Spain and this port are exempted from taking a pilot to enter or leave port; *provided*, that as a general rule, their draft does not exceed 2 metres 79 centimetres, or say 10 feet Burgos measurement, in which case they are obliged to take a pilot. All coasting vessels are also exempt, and sailing vessels which do not exceed 50 tons measurement.

3. For changing anchoring ground in port, one-half of the pilotage, corresponding to entry and clearance, shall be paid, according to tonnage and hour.

4. The anchorage with pilot on board is compulsory for all foreign vessels; also for national sailing vessels which exceed 50 tons' measurement. Vessels engaged in the coasting trade of this island are exempt from this obligation and payment.

5. Pilotage at night shall be double that corresponding to the vessel during the daytime; night shall be counted as from half an hour after sunset to half an hour before sunrise.

The preceding tariffs and notes have been drawn up by the board constituted according to the royal order of the 17th of December, last past, and approved under this date by his excellency, the commandant-general of this naval station, who has ordered their faithful observance and compliance from the 1st of March next, it being understood that the exemption of payment of anchorage dues granted in favor of coasting vessels of this island, to which the last part of note No. 4 refers, shall be provisional until the Supreme Government shall decide, to whom it has been referred, in accordance with the provisions of said royal order.

RAFAEL DE ARAGON,
The Commandant of Marine, Captain of the Port.

HAVANA, *February* 24, 1886.

Supplement to the tariffs of the port of Havana.

The board on regulations and tariffs of the port of Havana, constituted according to the royal order of 11th of March last, in view of what is therein provided, and in that of the 8th of April following, has decreed in act of 19th instant, to approve and confirm the tariffs of pilotage and anchorage fees of the port, drawn up by the board constituted conformably to the royal order of the 17th December previous, approved by H. E. the commandant-general of the station, in decree of the 24th of the following February, and in force from the corresponding 1st of March, with the explanations and modifications hereinafter set forth, conformity therewith having been approved in decree dated yesterday, by H. E. the commandant-general of the station, who has also ordered that said explanations and modifications shall immediately go into effect.

1. Note No. 2 of the tariffs shall remain expressed in the following form: "Spanish vessels making periodical trips between one or more ports of Spain, and those of Europe, Africa, Cuba, or Porto Rico, are exempted from taking a pilot to enter or leave port; *provided, however*, that among the crew of master, mate, or boatswain there be one holding a certificate of titular pilot of the port of Havana, and who has not been absent therefrom more than 30 days."

2. Note No. 5 of the tariffs shall remain expressed in the following form: "Pilotage at night shall be double that corresponding to the vessel during the daytime; night to be counted as from an hour after sunset to an hour before sunrise, considering the entry from the time the vessel shall be about off the Morro Light, and the departure from the time she is moved from her anchoring ground inside the port."

3. The notice at foot of the said tariffs, "that the exemption of payment of anchorage dues granted in favor of coasting vessels of this island was provisional, is now without effect, as the report made to the Supreme Government in this sense has been resolved by the royal order of the — of April last, confirming the said exemption.

And this supplement is hereby issued, to be joined to the port tariffs recently published.

[SEAL.] RAFAEL DE ARAGON,
The Commandant of Marine and Captain of the Port.

HAVANA, *May* 25, 1886.

LIGHTS AND LIGHT DUES.

No light dues are collected in this port from vessels.

The Morro light is situated 158 feet above sea level in a cylindrical tower of masonry within the fort of the same name. The light is a first-class, Fresnel lens, fixed white light, with flash every half minute, visible 40 miles at sea.

QUARANTINE.

Quarantine rules and regulations in the ports of this island are established by the general government and supersede all local or municipal regulations.

The port boards of health are presided by the captain of the port, and are under his directions.

The local boards are presided by alcaldes, municipal officers, but their powers are solely advisory.

Quarantine from 7 to 20 days is ordered on all vessels arriving from points where there is any contagious or infectious disease, or vessels upon which any death may have occurred from typhus or other contagious disease, or from which two or more persons are missing and not satisfactorily accounted for.

The principal diseases against which quarantine is established are cholera and smallpox. Vessels arriving in this port with either of these diseases on board are sent in strict quarantine to the lazaretto at the port of Mariel, 12 miles to the westward of Havana.

No measure of precaution against yellow fever in the ports of this island is considered necessary, that disease being endemic.

All expenses of fumigation, detention, etc., are borne by the consignees of the vessel.

No vessel will admit cargo or be cleared until first inspected and fumigated by the board of health. This fumigation is compulsory on all vessels before leaving port, and though the service is often merely nominal, the fees for fumigation are invariably collected.

RAMON O. WILLIAMS,
Consul-General.

UNITED STATES CONSULATE GENERAL,
Havana, September 18, 1889.

PORT REGULATIONS OF HAVANA.

[Transmitted by Consul-General Williams.]

ARTICLE 1. No national or foreign vessel, whether lying in the bay or moored to a wharf, shall be moved to another place without the captain of the port's permit, and without a pilot on board, specially for passing between the shoals and through the channels, although these should be perfectly known to the captain, in accordance with article 36, treaty 5, title 7, of the navy ordinances; such movings to take place always when the state of weather will allow them.

The infringers of this rule shall pay a fine of $12 gold, and $24 when reiterating the fault, paying besides in both cases the pilotage fees as if the pilot had been on board.

Captains are obliged to dispose the operations on board as directed by the pilot, and to obey any order they may receive from the chief pilot, inspector of the bay.

ART. 2. As ordered in article 61, title 7, treaty 5, in the navy ordinances, and article 28, title 14, in the maritime inscription ordinances, the captain of any national vessel shall on arrival into the harbor present himself to the captain of the port and to the commander of the bay, handing to the former the roll and the lists required.

ART. 3. The captain of any vessel with gunpowder on board, even in scanty quantity, must manifest it on being visited, so that it may be taken in bond and a special place designated where the vessel is to remain. A fine of $24 in the corresponding stamp paper will be imposed for any infraction to this order, and of the double, should the vessel go alongside of a wharf without having made the due declaration. On the day previous to his departure, the captain will apply at the office of the captain of the port for an order to reship his gunpowder.

ART. 4. It is forbidden, under the penalty of $15 fine, to fire guns or firearms of any sort on board of vessels without a permit, which can be obtained provided the necessity of so doing is fully established. Any vessel which keeps her stove lighted after sunset or before the morning gun is fired will be subject to the above penalty.

It is also forbidden, under the same penalty, that vessels should have more lights burning than those absolutely necessary, and with all the requisite care to insure their safety.

It is equally forbidden to heat on board pitch, tar and tallow; the infractor will pay a fine of $50 in stamp paper if the vessel is fastened to a wharf, and $25 if she is in the bay; in all cases he shall be held responsible for the consequences of the fault committed.

ART. 5. As ordered in royal decree of the 24th of September, 1873, all national vessels must obtain a permit for careening and calking, either on docks or afloat, and therefore these operations can not be effected without a permit from the captain of the port, who will grant it when asked for. Each infraction to this disposition will be punished with a fine of $42 if the vessel be at the wharf, and $24 if anchored in the harbor.

Should a foreign vessel, whether moored to the wharf or lying in the harbor, need heavy repairs requiring the resources of the port, her consul, and if she has no consul, her consignee, or the captain personally, shall apply for the above-mentioned permit.

ART. 6. In case of fire on board of a national or foreign vessel, whether at the wharf or anchored in the harbor, captains are obliged to go as soon as possible to the vessel on fire, with boats properly manned, and supplied with fire engines, tow chains, cutting axes, and all other implements which the cases may require. Captains not fulfilling this duty without proving legitimate excuses, shall be subject to the fine prescribed in articles 135 and 136, police of ports, navy ordinances.

The same penalty will be imposed upon any captain who, being able to, will not give help to any vessel, big or small, that gets unmoored. Article 35, title 14, maritime inscription ordinances.

ART. 7. According to article 138, police of ports, navy ordinances, no vessel, whether national or foreign, is allowed to take in or discharge ballast without a permit from

the captain of the port, who, through the chief pilot, will designate the place where it is to be taken in or let out. Any infraction to this rule shall be punished with the fine of $5 per ton if the vessel is lying out in the harbor, and $10 if at the wharf, where, according to circumstances and season, the vessel may be allowed to take in a few tons of ballast, always with the captain of the port's permit.

It is also forbidden, under the same penalty, to throw overboard ordures and rubbish, and if through carelessness while loading or unloading goods some of these prejudicial to the bottom would fall into the water, a fine of $5 will be paid by the captain, and the double of said amount in case of reiteration.

Captains of vessels, whether from abroad or coasters, national or foreign, infringing the foregoing articles in any port or anchoring ground on the coast, shall be subject to the responsibility and penalties therein prescribed, even where there is no maritime authority.

ART. 8. No vessel, whether national or foreign, shall come to the wharves without the custom-house chief collector's permit, and it is always to be done under the direction of the pilot, who will be responsible of her mooring, which the captain can never alter, under the penalty of $50, paying besides the amount of the damages he may have occasioned to the wharf or adjoining vessels.

Neither can the captain effect said moving unless having executed the sails and spars operations ordered by the pilot, without whose direction no movings from the wharves, nor changes in the mooring or anchoring, if the vessel be at an anchor, can be effected. In both cases double of the tariff fees shall be paid.

Steamers coming to the wharves will carefully prevent the letting out of their engine fire through the chimney.

ART. 9. It is forbidden to make fast vessels or tow lines to the sea marks and buoys marking the shoals of the entrance channel and of other places in the bay, under the penalty of $10, besides the cost for replacing said marks if moved.

ART. 10. It is entirely forbidden to the crews of vessels, whether national or foreign, to come ashore armed with weapons of any kind, captains being specially recommended to duly warn their crews about it.

The infringers will be punished according to law and in proportion to the harm done by them.

The captain, mate, or boatswain of any national or foreign vessel, who, on account of disorderly behavior of her crew after sunset, or for urgent cases in day time, should need the help of armed men to reëstablish order, will apply for the same to the nearest man-of-war, and send written report of the case to the captain of the port.

No captain of a foreign vessel can discharge any man of his crew without her consul's permit, and if national, the captain of the port's permit is required, even if the vessel were a coaster.

ART. 11. The captain of any vessel is obliged to prevent her being boarded by any craft before the visit of the health committee of the port.

Any one infringing this disposition shall be punished with the fine designated in the health regulations.

ART. 12. If the captain, on account of being busy in the steering of his vessel, would not notice the aforesaid boarding, and, therefore, could not prevent it, the responsibility will only fall upon the persons who commit the fault, and on the boatman at their service, and each of them shall pay the said fine, or, in default of payment, suffer the imprisonment prescribed in the above-mentioned health regulations.

ART. 13. As soon as the vessel has finished discharging the captain will report it to the health committee, so as to have her inspected by the M. Doctor in charge of this duty.

ART. 14. No vessel will admit cargo nor be cleared unless inspected as ordered in the foregoing article, and she must first obtain from the health committee a note in which will be stated the following: Salubrious and ready to load or to leave.

ART. 15. The captain of a merchant vessel will have the national colors hoisted up whenever the flagship hoist hers up fore and aft, whether for being a holy-day or for any other reason. National vessels will besides show the inscription flags of their respective provinces and their particular ones when the flagship on days of great festival puts all her flags out to the wind.

Captains will recommend to the persons in whose charge they will leave their vessels during temporary absences, the strict fulfillment of the above disposition, as a charge may be brought against them for infringing same.

ART. 16. In order that vessels anchored in this port may be duly prepared with convenient anticipation, when the barometer will mark bad weather, the following signals will be hoisted and kept up on the flagstaff at the captain of the port's office during a few hours:

A red triangular flag, meaning appearances of bad weather.

A triangular flag with horizontal colors, half blue and half yellow, meaning appearances of very bad weather.

Either of above flags surmounted by a black ball will signify that there are signs of decrease in the weather announced by the same.

ART. 17. Steamers coming in, or going out, will shorten their speed as much as possible when they get, or until they get, ahead the Morro Castle.

The infringers to this order shall pay the damages they may occasion, and also a fine of $30 if they have been in the port any time before, or if it is proved that the pilot had notified them this disposition.

ART. 18. On holy-days any traffic is forbidden in the port, and the loading and unloading of vessels; and on working days the same prohibition will rule from sunset till the morning gun is fired, unless having a permit from the captain of the port, to whom application for it shall be made when urgently needed. Infringers will pay a fine of $5 gold.

ART. 19. Captains of vessels, from abroad or coasters, will ship no man to form part of their crews unless he be provided with his documents and his shipping be authorized by the commander of marine; and they neither can discharge no one without said authorization; the infringers paying a fine of $25 gold for each man lacking said requisites; and twice that amount if any one be unlawfully found on board after the vessel is cleared at the custom house, or turns out to be a deserter.

Captains of vessels, both national and foreign, will acknowledge the authority of the inspector appointed and empowered by the Government general to inspect and review crews of vessels leaving the port, and to get hold of any man lacking of documents, it being captain duty to assist the inspector in so doing when needed.

ART. 20. The pilots of the port with nomination of such shall be ten in number, as per royal decree of June 18, 1881.

ART. 21. On ordinary circumstances the pilots of the port will go out the distance of 1 mile from the entrance to take the vessels in, and on extraordinary ones they will go out as far as the same will allow, their duty ending when anchoring in due place.

ART. 22. Pilots taking vessels out will leave them when getting outside the last buoy of the channel, if the wind is fair and steady; but in case of calm or head wind, they will remain on board till having the vessels well free off the coast, without fear of having to anchor on the east shoal or on the leeward coast.

ART. 23. The pilots' boats will be painted black, with a big white P outside on the bows, and they will besides show a square blue flag with an equal white P in its center.

ART. 24. Every pilot will always have with him, as a voucher to justify his capacity as such when required, a document issued by the captain of the port.

ART 25. To come in and go out in night time the pilot will previously have lights placed on the seamarks of the channel.

ART. 26. Only the pilots are authorized to pilot vessels in and out, and in their movings in the port.

The captain not using the pilot's services will pay as if he had used them, if not free of same by the prescriptions on the tariff, being besides liable to the damages occasioned for the want of pilot, without being excused by the presence on board of a fisherman or any other man knowing the place. But if he can prove the fault to be the the result of omission or neglect of the pilot, who did not make his appearance in due time, the latter will pay out of his own money the pilotage fees to the common fund, and remain besides subject to the punishment he may deserve for his want of zeal.

ART. 27. Any man, whether inscribed or not, that will pilot a vessel without having his nomination of Pilot, shall pay $50 gold in paper of fines, and in case of insolvency he will suffer the equivalent imprisonment, bearing also the responsibility that may befall him for the damages that under his direction may suffer the vessel, or be occasioned to others.

ART. 28. The Pilot will not get into any vessel, but he shall pilot her in from his boat, when she has no clean Bill of Health, or when, although having a clean one, health matters on board are not right.

Any pilot that unduly gets on board of a vessel, and is thereby detained out of communication, shall pay out of his own money to the common fund $8 gold per day if the detention does not last over 3 days, and $4 per each subsequent day when of longer time.

When the pilot gets on board obliged to do so by the Captain, or if the latter has not reported the true state of health on board, said captain shall make equal disbursements, and pay the pilotage fees besides.

ART. 29. Any pilot refusing to pilot a vessel which falls on his turn, the state of the weather not preventing it, according to the Captain of the Port's opinion, will pay to the common fund $50 gold, and stand besides liable for the damages his refusal may have occasioned, or will be discharged, as it might result of the proceedings to be started against him if there is cause for it, or the case would require.

ART. 30. Pilots are forbidden to receive, and take from one vessel to another, any

people, goods, and letters, under the penalties prescribed in the Health and Custom-House Regulations.

ART. 31. If any vessel, on account of being short of hands, would require the help of all or part of the men of the pilot's boat, the latter will order the going up of the number of men asked for by the captain, provided health circumstances do not prevent it, and previously agreeing upon the wages to be paid them.

ART. 32. All the captains of vessels, from abroad or coasters, will receive from the chief pilot, inspector of the bay, a copy of these regulations, which they shall return at the captain of the port's office on applying for the leaving permit. Those failing to do so will pay $1 in gold or silver, and half a dollar if delivered back in a damaged condition, which income will be directed to cover the printing cost of said copies.

HAVANA, *February* 24, 1886.

SUPPLEMENT TO THE REGULATIONS OF THE PORT OF HAVANA.

The board of regulations and tariffs of the port of Havana, constituted according to the royal decree of the 11th of last March, in accordance with what is provided in it, and in that of the 8th of April subsequent, has agreed in its act of the 19th instant to approve and confirm the port regulations formulated by the board constituted as ordered in the royal decree of the 17th of December previous, and approved by his excellency the admiral commanding the naval station of Antilles, in decree of the 24th of February following, and in force since the 1st of March correlative, with the explanations and modifications here expressed, its decision having been approved in decree of yesterday by his excellency the general commanding of this naval station, whose authority has dictated that said explanations and modifications be put in force immediately.

First. All fines that are referred to in the articles of the regulations are understood to be in gold, and not in bank notes, and must be paid on the stamp paper designated to that effect by law.

Second. The first paragraph of article 7 will remain as follows: "No vessel, national or foreign, will be allowed to take in ballast or discharge the same without an order or permit from the captain of the port, which operations must be performed in the manner ordered by the royal decree of the 18th of February last: the infringer of this article will pay a fine of $5 for each ton, if at anchor in the harbor, and $10 if alongside of any wharf."

Third. To article 23 will be added the following in a second paragraph: "The uniform of the pilots will be white pantaloon and jacket, black necktie and straw hat, with black ribbon; for piloting men-of-war the jacket must be blue with anchor buttons; on rainy days they can use blue overcoat and oilcloth hat."

Fourth. Article 27 will remain published in the following form: "The pilot will work the vessel from his boat, or on board the same vessel, according as the circumstances might demand, when she has no clean bill of health, or that she has any sanitary troubles on board, notwithstanding her having a clean bill of health. If the pilot does not consider it necessary to get on board, for the security of the steering of the vessel, and should do so only by an express request from the captain, or that this might have hidden from him his true sanitary condition, the vessel will pay, besides her regular pilotage fees, the sum of $8 per day, the detention not exceeding 3 days, and $4 each day after that time, if the incommunication be longer, to the pilot detained in the vessel as a personal fee for the time he can not work."

Fifth. Article 29 will remain published in the following form: "The pilot that should refuse to take charge of the steering of a vessel, being his turn to do so, and no circumstance of the weather interfering, by the appreciation of the captain of the port, will pay a fine of $50, and be liable to answer for the damages that his refusal might have originated, or be discharged according to the resolution of the proceedings that may be started against him, if there is a cause for such and the case should require."

And, to circulate together with the Port Regulations recently published, this supplement has been issued.

HAVANA, *May* 25, 1886.

CAIBARIEN.

REPORT BY VICE-CONSUL SPRINGER, OF SAN JUAN DE LOS REMEDIOS.

PILOTAGE.

For national and foreign vessels inward and outward at the port of Caibarien the following tariff of pilotage is in force, gross tonnage, in gold:

Up to 100 tons	$10.00
101 to 200 tons	15.00
201 to 300 tons	20.00
301 to 400 tons	23.00
401 to 500 tons	25.00
501 to 600 tons	27.00
601 to 700 tons	29.00
701 to 800 tons	31.00
801 to 1,000 tons	34.00
1,001 to 2,000 tons	37.00
2,001 tons and upward	40.00

Vessels exempt from compulsory pilotage are those that are under 50 tons register and coasters which have a regular pilot on board.

What will be considered coastwise navigation are Spanish vessels trading between Spanish ports, from or bound to any foreign port, and they will be exempt from compulsory pilotage excepting on their arrival at the first Spanish port, and that of their departure at the first port where they are cleared.

For moving vessels at the anchorage inside of Key Francis up to 20 feet draft, one-third pilotage will be paid. For moving vessels from Key Francis up to the bay, one-half pilotage will be paid. For moving vessels to any other anchorage inside of Key Francis or Caibarien, two-thirds pilotage will be paid. Vessels calling at Key Francis for orders that do not load here will pay only one-quarter of the pilotage.

Pilotage will be calculated upon the gross tonnage of the vessel.

Pilotage charges are the same for national as for foreign vessels. No foreign flag enjoys special privileges in this regard. Vessels in distress and foreign war vessels pay pilotage as per tariff.

LIGHTS AND LIGHT DUES.

It has never been a custom to collect light dues at this port.

The light-house at Key Francis was destroyed by the hurricane of September 4 and 5, 1888. It is intended to build a new one, and for this object up to date about $1,200 has been collected. The light-house will probably be erected during the coming year of 1890.

TONNAGE DUES.

Neither national or foreign vessels pay any tonnage dues.

QUARANTINE.

Vessels arriving at Key Francis are boarded by the health officer of the port, in order to ascertain if any contagious disease exists on board.

What are considered contagious diseases are principally smallpox and cholera.

Vessels with infectious diseases on board are sent to pass quarantine at the port of Mariel, situated some 12 miles west of Havana, where a lazaretto is established.

The duration of quarantine is generally about 7 to 14 days. The expenses of detention and fumigation are borne by the vessel.

The municipality establishes the quarantine rules, but the general government can take full charge and supersede the former.

QUARANTINE REGULATIONS.

ARTICLE 1. No national or foreign vessel, whether lying in the bay or moored to a wharf, shall be moved to another place without a permit from the captain of the port, and a pilot on board especially for passing between the shoals, and though these should be perfectly known to the captain, in accordance with article 36, treaty 5, title 7, of the navy ordinance, such movings to take place always when the state of the weather will allow them.

The infringers of this rule shall pay a fine of $12 gold, and $24 gold when reiterating the fault, paying, besides, in both cases the pilotage fees, as if the pilot had been on board.

Captains are obliged to dispose the operations on board as directed by the pilot, and to obey any order they may receive from the chief pilot as inspector of the bay.

ART. 2. As ordered in article 61, title 7, treaty 5, in the navy ordinances, and article 28, title 14, in the maritime inscription ordinances, the captain of any national vessel shall, on arrival into the harbor, present himself to the captain of the port or to the commander of the bay, handing to the former the roll and the lists required.

ART. 3. The captain of any vessel with explosive matters on board, even in scanty quantity, must manifest it on being visited, so that it may be taken in hand and a special place designated where the vessel is to remain. A fine of $24 in the corresponding stamp paper will be imposed for any infraction of this order, and of the double should the vessel go alongside of a wharf without having made the due declaration.

ART. 4. It is forbidden under the penalty of $15 fine to fire guns or firearms of any kind on board of vessels without a permit, which can be obtained provided the necessity of so doing is fully established. Any vessel which keeps her stove lighted after sunset or before the morning gun is fired will be subject to the above penalty. It is also forbidden under the same penalty that vessels should have more lights burning than those absolutely necessary, and with all the requisite care to insure their safety.

It is equally forbidden to heat on board pitch, tar, and tallow. The infractor will pay a fine of $50 in stamp paper if the vessel is fastened to a wharf, and $25 if she is in the bay. In all cases he shall be held responsible for the consequences of the fault committed.

ART. 5. As ordered in royal decree of the 24th September, 1873, all national vessels must obtain a permit for careening and calking either on docks or afloat, and therefore these operations can not be effected without a permit from the captain of the port, who will give it when asked for. Each infraction to this disposition will be punished with a fine of $42 if the vessel is at the wharf, and $24 if anchored in the harbor.

Should a foreign vessel, whether moored to the wharf or lying in the harbor, need heavy repairs requiring the resources of the port, her consul, and if she has no consul her consignee, or the captain personally shall apply for the above-mentioned permit.

ART. 6. In case of fire on board of a national or foreign vessel, whether at the wharf or anchored in the harbor, captains are obliged to go as soon as possible to the vessel on fire with boats properly manned and supplied with fire engines, tow chains, cutting axes, and all other implements which the cases may require. Captains not fulfilling this duty without proving legitimate excuses shall be subject to the fine prescribed in articles 135 and 136, police of ports navy ordinances.

The same penalty will be imposed upon any captain who, being able to, will not give help to any vessel, large or small, that gets unmoored. Article 35, title 14, maritime inscription ordinances.

ART. 7. No vessel, national or foreign, will be allowed to take in ballast or discharge the same without an order or permit from the captain of the port, which operations must be performed in the manner ordered by the royal decree of the 18th of February, 1886. The infringer of this article will pay a fine of $5 for each ton if at anchor in the harbor, and $10 if alongside of any wharf.

It is also forbidden under the same penalty to throw overboard any rubbish, and if through carelessness while loading or unloading goods some of these prejudicial to the bottom should fall into the water, a fine of $5 will be paid by the captains of vessels, whether from abroad or coasters. National or foreign infringing the foregoing

articles in any port or anchorage ground on the coast shall be subject to the responsibility and penalties therein prescribed even where there is no maritime authority.

ART. 8. It is forbidden to make fast vessels or tow lines to the sea marks and buoys marking the shoals of the entrance channel, and of other places in the bay, under the penalty of $10, besides the cost of replacing said marks so removed.

ART. 9. No captain of a foreign vessel can discharge any man of her crew without her consul's consent, and if national the captain of the port's permit is required, even if the vessel should be a coaster.

ART. 10. The captain of any vessel is obliged to prevent her being boarded by any craft before the visit of the health committee of the port. Any one infringing this disposition shall be punished with the fine designated in the health regulations.

ART. 11. In order that vessels anchored in this port may be duly prepared with convenient anticipation when the barometer will mark bad weather, the following signals will be hoisted and kept up on the flagstaff. Signals will be hoisted and kept upon the flagstaff at the captain of the port's office during a few hours. A red triangular flag meaning appearances of bad weather.

A red triangular flag with horizontal colors, half blue and half white, meaning appearances of very bad weather.

Either of above flags surmounted by a black ball will signify that there are signs of decreasing bad weather announced by the same.

ART. 12. Captains of vessels from abroad or coasters will ship no man to form part of their crews unless he be provided with his documents, and his shipping be authorized by commander of marine, and they neither can discharge no one without said authorization; the infringers paying a fine of $25 gold for each man lacking said requisites, and twice that amount if any one be unlawfully found on board after the vessel is cleared at the custom-house, or turns out to be a deserter.

ART. 13. The pilots of the port, with nominations as such, shall be four in number.

ART. 14. All national and foreign vessels coming to the anchorage at Key Francis or arriving directly at this port are obliged to take a pilot, both on arrival and departure. Vessels under 50 tons register are exempt from taking a pilot, as are also those vessels engaged in the coastwise trade and having on board a regular accredited pilot. Coastwise navigation will be considered Spanish vessels arriving from other ports of the island.

ART. 15. With the object that the pilotage service may be attended to with regularity, one of the pilots on duty at Key Francis will often go to the top of light-house with the object to see if any vessel is making towards the anchorage, so as to advise his companions in order that the one in turn immediately embark to meet the vessel.

ART. 16. As soon as any vessel is seen, which by its movements indicates that she is making for the port, the pilot boat will make for her flying the national flag at the peak, and at the masthead a blue flag with a white P.

The pilot boats will be painted black with a white P on each side of stern.

ART. 17. When circumstances will permit of their so doing, captains are obliged to place their vessels in a proper position to receive the pilot. When the weather is too rough to permit the pilot to come on board, he will remain as near as possible and direct the movements of the vessel from his boat until she is anchored.

ART. 18. Pilots are the only ones authorized to pilot vessels on entering, clearing, or moving inside of the port. The captain who acts without his services not being exempt by the provisions of the tariff, will pay the same as though he had taken him and at the same time be held responsible for any damage that may occur on account of not having the pilot on board, and it will not serve him as an excuse his having on board any fisherman or person who may have a knowledge of the locality.

But if it is proved that the pilot was not on hand through his own omission or carlessness, he will pay to the common pilot fund value of said pilotage.

ART. 19. Whenever the circumstances will so permit, and the pilot does not consider it an imperative necessity for him to pilot the vessel from on board in cases where vessels do not bring clean bills of health, he will do so from his boat.

If the pilots going on board of a vessel can be justified as being necessary in order to pilot her, or because the captain did not inform him of the true sanitary condition of the vessel, the captain will pay the usual pilot dues and also $2.12½ per day to the pilot during the time he may be obliged to remain on board.

ART. 20. Pilots are forbidden to receive and carry persons, effects, or letters from one vessel to another under the corresponding penalties imposed by the sanitary board of health and customs.

ART. 21. The individual who may or not be registered, who without a pilot's credentials pilots a vessel, will pay a fine of $50 in the usual government stamps, and in case of insolvency will be imprisoned without prejudice to his liabilities for any damage vessel may have sustained or caused under his directions.

ART. 22. All ship masters will receive from the chief pilot a copy of this regulation, which they will return to the captain of the port on their clearing vessel, and should they return it in a damaged condition they will pay 25 cents, which will be used towards printing expenses.

JAMES H. SPRINGER,
Vice Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
San Juan de los Remedios, October 24, 1889.

CARDENAS.

REPORT BY COMMERCIAL AGENT CHURCHILL.

PILOTAGE.

Spanish, American, and German vessels pay the same rates of pilotage and all other nations pay one dollar more on the basis of tonnage; say on 80 to 100 tons an American vessel would pay $13 (under 80 tons a vessel is not obliged to pay pilotage unless taking a pilot) and an English vessel would pay $14. All vessels are compelled to pay pilotage unless of under 80 tons, whether in distress or not, and foreign war ships pay pilotage the same as those of the country.

LIGHTS AND LIGHT DUES.

There are no light dues collected whether as to foreign or coasting trade, laden or in ballast. The light-houses in this district are the light on Cayo Piedra, which is a revolving light with red and white flashes and can be seen 15 miles. The light on Cruz del Padre is a white fixed light and can be seen 10 to 12 miles. The light at Cayo Bahia de Cadiz is a white fixed light and can be seen 20 miles. The inner light on Key Diana is a wooden station 40 feet high and serves for a guide to the inner harbor.

TONNAGE DUES.

All vessels coming to this port pay the same tonnage dues as are paid by Spanish vessels, whether laden or in ballast.

QUARANTINE.

Vessels are quarantined for smallpox, cholera, or for any contagious disease, and the expenses of the quarantine are borne by the vessel, including the visits of the port physician and for fumigation. The quarantine is a municipal affair, under the charge of the port physician and the captain of the port, but these officers are subject to the ruling of the higher authorities in Havana.

JAMES M. CHURCHILL,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Cardenas, August 12, 1889.

CIENFUEGOS.

REPORT BY CONSUL EHNINGER.

PILOTAGE.

Spanish coasting vessels are not required to take a pilot for entering, leaving, or coming to dock. All other vessels, Spanish as well as foreign, exceeding 80 tons burden must pay inward and outward pilotage. Pilotage on coming to wharf is to be paid by all foreigners. Pilotage charges are the same for foreign as for national vessels. No foreign flag enjoys special privileges in this respect. Vessels in distress and foreign war vessels have to pay pilotage.

LIGHTS AND LIGHT DUES.

The tariff of March 12, 1867, merged light dues, tonnage dues, etc., into navigation dues. These dues once paid in one port of the island are not again collected during that voyage in any other port of the island of Cuba.

The light of Cienfuegos, situated to the right of the entrance to Jagua Bay, is revolving, of third class, a white light, with flashes at 2 minutes interval. The center of the luminous focus is situated at 16.60 metres (54½ English feet) above the level of the sea, and begins to be visible for inward-bound vessels at 15 miles, and for smaller vessels at 12 miles. The flashes are visible 3 miles further, that is, at 18 and 15 miles respectively. As already stated, light dues have been merged into navigation dues and no discrimination is made in the collection of these against foreign vessels.

TONNAGE DUES.

These dues have been abolished, as also the navigation dues collected under the tariff laws of March 12, 1867. There is no discrimination in regard to flag, and no nationality enjoys privileges in this regard.

QUARANTINE.

Vessels, when the cause is slight, are put in observation for only 3 days, but when the local board of health considers that there is reason for longer observation the vessel is ordered to St. Jago de Cuba or to Mariel. The diseases quarantined are those generally considered contagious. The expenses of detention and fumigation are paid by the captain or consignee of the vessel. Quarantine laws are established by the superior board of health of the Island of Cuba, which has ultimate decision in all cases.

No publications with respect to these subjects have been published in book or pamphlet form so far as I can learn.

The above has been furnished by the captain of the port of Cienfuegos, the superior maritime authority.

HENRY A. EHNINGER,
Consul.

UNITED STATES CONSULATE,
Cienfuegos, August 5, 1889.

SAGUA LA GRANDE.

REPORT BY COMMERCIAL AGENT MULLEN.

PILOTAGE.

Pilotage for vessels of all nationalities is compulsory, excepting in the two following cases: Spanish vessels making periodical trips between Spanish ports with those of Europe, Africa, or Porto Rico are not obliged to take pilots in entering or leaving port if they have on board a captain, pilot, or mate who holds a certificate as pilot of the port of Sagua and has not been absent from the same more than 30 days. All Spanish vessels not exceeding 250 tons (total tonnage), either in the coasting or foreign trade, are exempt from pilotage.

Vessels of whatever nationality which enter port seeking and leave without discharging or taking cargo shall pay one-half the pilotage marked by tariff if they remain less than 1 week, time to be counted from moment of coming to anchorage to time of hoisting anchor.

Tariff of pilotage at the port of Sagua la Grande.

Total capacity.	Entering by Marillanes.	Entering by Boca de Sagua.	Going to and changing from wharf.	Leaving wharf, or changes made in bay.	Changes made at same wharf.
60 to 150 tons	$8.00	$10.00	$3.35	$2.00	$1.35
150 to 200 tons	10.00	12.00	4.15	2.50	1.70
200 to 300 tons	13.00	15.00	4.45	3.25	2.20
300 to 400 tons	17.00	19.00	7.10	4.25	2.85
400 to 500 tons	21.00	23.00	8.75	5.25	3.50
500 to 600 tons	23.00	25.00	10.00	5.75	3.85
600 to 700 tons	25.00	27.00	10.45	6.25	4.15
700 to 800 tons	29.00	31.00	12.10	7.25	4.85
800 to 1,000 tons	33.00	35.00	13.75	8.25	5.50
1,000 to 1,200 tons	36.00	38.00	15.00	9.00	6.00
1,200 to 1,600 tons	39.00	41.00	16.25	9.75	6.50
1,600 to 2,000 tons	41.00	43.00	17.10	10.05	6.85
2,000 to 2,500 tons	43.00	45.00	17.95	10.75	7.15
2,500 tons and upwards	45.00	47.00	18.80	11.25	7.50

Changes to Cayo Cristo or Esquivel, one and two-thirds of tariff, corresponding to tonnage as per tariff "entering by Marillanes." Changes outside of the Puntas, one and one-third. Changes to Boca de Sagua, double piotage. Entering river for repairs, $12.

ARTICLE 1. (*a*) For services of pilots who go on board vessels entering, leaving, or changing position in bay or at wharf, charges will be made according to existing tariff and total tonnage of vessel. (*b*) When a pilot is called for and his services for that day, through no fault of his, are not utilized, weather being good, he will be paid the sum of $4; the day comprising from sunrise to sunset. (*c*) The change of vessels in the bay shall be requested by the consignees of the captain of port, and the masters of vessels will raise the corresponding flag to indicate that they are ready to make the change. In extraordinary cases the pilot on duty will make the necessary change notwithstanding that the necessary permission has not been obtained.

ART. 2. Spanish vessels making periodical trips between Spanish ports with those of Europe, Africa, or Porto Rico are not obliged to take pilots in entering or leaving port if they have on board a captain, pilot, or mate who holds a certificate as pilot of the port of Sagua and has not been absent from the same more than 30 days. All Spanish vessels not exceeding 250 tons (total tonnage), either in the coasting or foreign trade, are exempt from pilotage.

ART. 3. Vessels taking pilots outside of the Puntas and to the windward of the entrance of harbor, at a greater distance than the customary 1 mile, shall pay $1 for each mile, and $2 if to leeward.

ART. 4. A vessel entering on account of bad weather, and without a pilot, will not be subject to any charge for entering; but those who take a pilot must pay for same notwithstanding refusal of captain to accept said services under pretext of knowing the port, it being against the laws of the port for any vessel to enter without a pilot except in cases referred to in article 2.

ART. 5. Vessels entering or leaving the port, who can not wait their turn, all the pilots being occupied, may follow a vessel which has a pilot aboard, and will pay one-half the pilotage marked by tariff.

ART. 6. Double pilotage will be exacted for night services, the night to embrace from sunset to 1 hour before sunrise.

ART. 7. Vessels of whatever nationality which enter port seeking and leave without discharging or taking cargo shall pay one-half the pilotage marked by tariff if they remain less than 1 week; time to be counted from moment of coming to anchorage to time of hoisting anchor.

Under date of January 11, 1887, dispatch No. 42, I inclosed a translation of pilotage at the port of Sagua; in said translation, article 2 reads as follows:

Vessels drawing less than 11 feet or measuring less than 250 tons (total tonnage), of whatever nationality, are not obliged to take a pilot.

In article 2 of the present laws of the port the distinction is made in favor of Spanish vessels only.

With the exceptions named in the foregoing the charges on national and foreign vessels are the same. No foreign flag enjoys special privileges in this regard. Vessels in distress and foreign war vessels pay pilotage.

LIGHTS AND LIGHT DUES.

All light dues are paid by the merchants at this port, no charges of any kind in this regard being made against American or other vessels.

There is but one light-house at this port, situated at Boca de Sagua, about 40 feet high and visible at about 3 miles distance. The maximum depth at this point is about 5 feet and is used only by fishing smacks. Instead, therefore, of being a beacon of safety to incoming vessels it is in reality a source of danger, the real entrance of the port being Boca de Marillanes.

TONNAGE DUES.

No tonnage dues of any kind are collected at this port.

QUARANTINE.

Vessels arriving from suspicious ports, or which arrive with sickness on board, are anchored between Cayo Palomo, and Bamba until they receive the visit of the health officer; but it is seldom that this law is complied with or a vessel quarantined, no care whatever being taken regarding the health of the port. In cases where it is known that a vessel bound from other ports of the island to Sagua has on board cases of yellow fever it is customary to advise the captain of the port and request as a favor that the vessel be anchored apart from the fleet to evade, as far as possible, the spread of the disease among the shipping. During the last 10 years I know of but one case that a vessel was quarantined. The vessel came from Havana having on board two cases of yellow fever, and she was quarantined at the request of the United States consul at this port. A fumigation fee of $4.25 (Spanish gold) is collected from all vessels, though vessels are never fumigated.

D. M. MULLEN,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Sagua la Grande, August 5, 1889.

SANTIAGO DE CUBA.

REPORT BY CONSUL REIMER.

PILOTAGE.

At this port six pilots are employed, all under the orders of the captain of the port. These pilots meet vessels about a mile from the Morro Castle at the mouth of the harbor in small canoes, which have P painted in large letters on port and starboard bows. The pilot charges are—

[In Spanish gold.)

Gross measurement.	Entering or leaving port.*	Shifting of berth in harbor.
Up to 100 tons	$9.00	$2.00
101 to 200 tons	10.50	2.25
201 to 300 tons	12.00	2.50
301 to 400 tons	13.50	2.75
401 to 500 tons	15.00	3.00
501 to 700 tons	16.00	3.50
701 to 900 tons	18.00	4.00
901 to 1,000 tons	20.00	4.50
1,001 to 2,000 tons	22.00	5.00
2,001 to 3,000 tons	24.00	5.50
3,001 to 4,000 tons and more	26.00	6.00

*From sunset to sunrise the charges are double.

The vessels exempt from pilotage charges, in other words, those that are not by law compelled to take pilots, are the following:

All Spanish vessels making periodical voyages between one or more ports in Spain and this port, as also between this port and the ports of Europe, Africa, or Porto Rico, always, of course, on conditions that the captain, mate, or quartermaster have a regular pilot license for this port and also that the vessel has not been absent from the port for a longer period than 30 days.

All Spanish vessels, no matter what their tonnage, engaged in the coasting trade (cabotage) are also exempt from pilotage provided they take no pilot.

All foreign vessels and those Spanish vessels not included in the foregoing are compelled by law to engage pilot for shifting of berth.

For moving from one part of the port to another half the pilotage is charged. (This rule is almost obsolete, as always vessels are charged for shifting of berth.) To prevent collisions and accidents in the turn and the narrow parts of the channel a code of signals is devised preventing vessels going out when others are entering the port, as also should a vessel anchor on her way out or in. As these signals are entirely immaterial to our shipping and serve only as guide to pilots, it is unnecessary to enumerate them here. Suffice to say a Spanish flag is hoisted on the mast of the signal station to warn vessels outside not to enter until the vessel leaving has passed the Morro Point.

Pilots are under the immediate supervision of the captain of the port, and vessels leaving must make application to that authority for a pilot in all cases.

It is not compulsory for war vessels to engage pilots. Vessels in distress, except in extraordinary circumstances, must take pilots.

LIGHT DUES.

There are no light dues charged; instead the custom-house charges for signaling vessels (derecho de vigia) $4 for each vessel, Spanish or foreign. For vessels engaged in the coasting trade $1 is charged.

So far as the Morro light is concerned, I, on December 31, 1887, sent to Commander Bartlett, the hydrographer, Bureau of Navigation, Navy Department, Washington, an exact report of its position. According to this report it is situated 1,015 feet from Morrillo Point on an E. by S. bearing. The official Spanish report states:

Morro Castle of Santiago de Cuba: Longitude, 69° 24′ 25″; latitude, 21° 4′ 24″. San Fernando: Situated in the interior of the fortress Morro Castle, at the entrance of the harbor of Santiago de Cuba, a revolving light with flashes each minute.*

The light is visible 17 miles, and on clear nights 21 miles.

The luminous focus is placed at 69 metres 50 centimetres above the level of the sea, and above the base of the light-house tower 7 metres 20 centimetres.

TONNAGE DUES.

Last year the Spanish Government took off the tonnage dues on all vessels, national and foreign, and to counteract this loss imposed on the receivers or shippers of goods a tax of $1 per ton of 1,000 kilogrammes on all cargo received or sent. This no doubt is an indirect tax on the vessel, as it affects freights to a large extent. The only discrimination made is on vessels, of whatever nationality they may be, bringing materials for mining, or coming in ballast and taking from here mineral as cargo. Such mineral, should the vessel come here in ballast and take a complete cargo of mineral, only pays 5 cents Spanish gold per ton of 1,000 kilogrammes. Should such vessels bring here material or machinery for the mines and leave with a cargo of mineral, the cargo (not the vessel) pays $1.30 Spanish gold per ton of 1,000 kilogrammes. All other cargo pays under the new law of last year, and thus virtually all tonnage dues are removed from vessels entering this port.

QUARANTINE.

Quarantine is established here against all contagious diseases, such as cholera and smallpox. Yellow fever is not considered a contagious disease, being endemic to this island. All vessels coming from ports not on the Island of Cuba are visited by the health officer of the port. The rules for quarantine are similar to our own. Expenses of detention, fumigation, visits, etc., are borne by the vessel. The health officer, as secretary of the board of health of the city and port, is under direct supervision and orders of the captain of the port and, consequently, of the general government of this island.

LAWS AS REGARD INTERPRETERS.

Although this subject is not mentioned in your circular, I believe it deserves special notice. According to law all ports on the Island of Cuba having a custom-house appoint an official interpreter. The interpreters accompany the health officer on his visits to a foreign vessel,

* This is doubtful, as the light flashes at from 40 to 60 seconds interval, as I have personally observed. This is due to the inequality of the weights of the machinery inside the light-house.

and charge for this $4.25 Spanish gold. They also translate the manifests of vessels, and as these charges are all paid by the vessel, I add hereunto a list of the official fees of the interpreters of this port.

The inclosures with this report are:

1. Tarifas de practicage, etc.
2. Regulations for the management and police in the port of Santiago de Cuba.
3. Reglamento General para el Regimen economico y administrativo del Ramo de Sanidad de la Isla de Cuba.
4. Copy of the Reglamento de Intérpretes aprobado por Real orden de 16 Junio 1839.
5. Interpreters' fees for translating manifests up to 25 lines, $2.50; from 26 to 50, lines, $5; 51 to 200 lines, $10 Spanish gold.

I have embodied all these laws and regulations in the foregoing report, and for this reason do not go into the details of translating them.

It is not often that I am appealed to by masters of vessels who have unwittingly infringed these rules, and when such has happened I have always found a willingness on the part of the port authorities to overlook such infringements, provided they are proven to have been committed without intent to deceive or defraud the Spanish Government.

OTTO E. REIMER,
Consul.

UNITED STATES CONSULATE,
Santiago de Cuba, September, 6, 1889.

GUANTANAMO.

[Inclosure 1 in Consul Reimer's report.]

PILOTAGE.

At the port of Guantanamo, Caimanera, the same rules and regulations are observed as at Santiago de Cuba, with the difference that instead of paying double pilotage for entering after sunset or before daybreak as at Santiago de Cuba, vessels pay only the regular charges and one-half more. For general movements to and from anchorage, one-third of the pilotage inward and outward is charged. The tariff for pilotage being translated into English in inclosure No. 6, I do not enumerate it here.

Neither light dues nor signaling dues are charged. There is no light-house at Guantanamo, although one is sadly needed. I understand that the Spanish Government is intending to build one, and in the interest of American shipping, strongly urge the necessity of a light-house at the entrance of the port.

Tonnage dues are the same as at Santiago de Cuba (abolished by law last year and imposed on the cargo).

QUARANTINE REGULATIONS.

Vessels arriving with foul bills of health are detained and fumigated as at Santiago de Cuba at vessels' expense. Vessels arriving with cases of smallpox on board are ordered to land their sick at Cayo Tiburcio at their expense. Vessels must be fumigated at once and being placed under observation for a time designated by the health officer and then are allowed free pratique. The same regulations as at Santiago de Cuba are observed.

For further information I would refer you to the "Aranceles de Aduanas de la Isla de Cuba" sent you some time since from this consulate.

OTTO E. REIMER,
Consul.

UNITED STATES CONSULATE,
Santiago de Cuba, September 6, 1889.

MANZANILLO.

[Inclosure 2 in Consul Reimer's report.]

PILOTAGE.

As at Santiago de Cuba six pilots are employed at this port, all of which are under orders of the captain of the port at Manzanillo. They have their station at Cape Cruz some 55 miles to the southwest of that port. This is made necessary by the intricate passages between keys and bars between the two points, and naturally the pilot charges are much higher here than at other ports.

Pilotage to or from Cape Cruz to the port of Manzanillo, by the Balandras channel or by the Cuatro Reales channel taking the Sevilla passage (not marked on our charts, it is northwest of Manzanillo).

	Spanish gold.
Up to 45 tons, gross measurement	$22.00
From 45 to 80 tons, gross measurement	26.00
From 81 to 120 tons, gross measurement	28.00
From 121 to 150 tons, gross measurement	32.00
From 151 to 175 tons, gross measurement	38.00
From 176 to 200 tons, gross measurement	42.00
From 201 to 300 tons, gross measurement	48.00
From 301 to 400 tons, gross measurement	52.00
From 401 to 500 tons, gross measurement	57.00
From 501 to 600 tons, gross measurement	62.00
From 601 upwards, gross measurement	67.00
In the interior of the port, to or from the keys	8.50
Coming to or leaving the dock:	
Day	3.00
Night	6.00
Changing berth in the bay:	
Day	2.50
Night	5.00

All coasting vessels, no matter what their tonnage, are exempt from pilot charges. Spanish vessels making periodical voyages between one or more ports of Europe, Africa, Cuba, or Porto Rico, always provided either captain, mate, or quartermaster are licensed pilots of the port of Manzanillo, and provided such vessels have not been absent from the port for a longer period than 30 days, are exempt from pilotage charges. Of course this only when they employ no pilot of the port.

All vessels, no matter what their tonnage or flag, which take pilots at Cape Cruz for the port of Santa Cruz del Sur, up to the passage of Cuatro Reales, outside of the keys or up to the key Media Luna and inside of such key, pay the maximum of the tariff of pilotage, and $67 Spanish gold.

Many sugar estates having their own docks and loading and discharging facilities and vessels entering at Manzanillo are permitted to load or discharge at these places, taking a custom-house officer on board and returning to Manzanillo to clear. For their benefit the following tariff is devised:

Pilotage from the general anchorage at Manzanillo to the following places along the coast is paid in proportion to the leagues distant such places are from the Manzanillo anchorage.

The proportion is as follows, taking as a base for calculating the pilotage the amount a vessel, according to tonnage, pays from Cape Cruz to Manzanillo:

Distance from—	Leagues.
Cape Cruz to Manzanillo	21
Manzanillo to Valerino	1
Manzanillo to Calicito	3
Manzanillo to Campechuela	5
Manzanillo to San Ramon	7
Manzanillo to Media Linsa	10
Manzanillo to Niquero	16
Manzanillo to Cape Cruz	21

The laws of the port are the same as at all other ports of this island, with the exception that the pilot charges are the same by day as by night.

LIGHT DUES.

No light dues are charged at this port. The only light existing in the jurisdiction of Manzanillo is the light at Cape Cruz. Before 1871 only a provisional light (dioptric) existed at Cape Cruz. The present light is a catadioptric light of the second order, white with red, and shows every 3 seconds. It is situated on the cape, 40 leagues from Santiago de Cuba, 21 from Manzanillo. Its geographical position is longitude 71° 24′ W. Cadiz; N. latitude 19° 48′ 24″.

The light-house proper consists of a column of hewn stone (Tuscan), surmounted by a lenticular apparatus at its base, and facing the sea there is a rectangular building 34 metres long and 30 metres wide, with portico in front and back, supported by ten columns. Distance from center of the tower to low-water mark 36 metres. The light of the luminous focus above low-water mark is 34 metres and 86 centimeters, 2 metres 60 centimetres of which is the height of the base above the level of the sea. The light is visible from the deck of a vessel 16¼ miles. The coast to the east of this light-house is very sloping, and there is anchorage for any sized vessel up to the reef which runs out from before the building for 2 miles in a southwesterly direction. This reef forms a bay where vessels can anchor in case of need. Bottom of bay sandy and covered with submarine plants and vegetation.

TONNAGE DUES.

No tonnage dues are collected from any vessels. (*Vide* tonnage dues at Santiago de Cuba.)

QUARANTINE.

The rules for quarantine can not be specified, as they depend on each particular case. As a rule, all vessels coming from ports where contagious diseases (not yellow fever) exist are quarantined. The expenses for fumigation and detention, etc., are borne by the vessel. See quarantine regulations sent with Santiago de Cuba report. I inclose herewith the "Reglamento del Puerto de Manzanillo y Tarifa de Practicages."

SANTA CRUZ DEL SUD.

[Inclosure 3 in Consul Reimer's report.]

This is a small port exporting to the United States chiefly mahogany and cedar logs, but will soon increase in importance, as active work will shortly be commenced on a railroad connecting it with the city of Puerto Principe.

PILOTAGE.

It is generally the custom of captains unacquainted with the coast to take a pilot at Cape Cruz, as there is no light or mark existing showing the channels of Cuatro Reales, Pitajaya, or Mordaza, by either of which channels the settlement can be approached. This costs them $67 Spanish gold.

Pilotage to or from the above-mentioned channels costs, gross measurement, for vessels of from—

	Spanish gold.
51 to 80 tons	$15.00
81 to 120 tons	20.00
121 to 150 tons	24.00
151 to 175 tons	28.00
176 to 200 tons	30.00
201 to 350 tons	35.00
351 to 500 tons	40.00
501 to 1,000 tons	45.00
1,000 upwards	50.00

Pilotage within the port, to point where ballast is taken or discharged, one-quarter of inward or outward pilotage; for coming to or leaving dock, $4; for changing berth in port, $4, Spanish gold; for pilot's services at night between 8 p. m. and 4 a. m., 50 per cent. additional to regular tariff will be charged; pilotage from port to port in immediate vicinity, $50 in Spanish gold.

Pilots carry in their boats pilot flag, white with P in blue, at peak. Steamers less than 500 tons using their own steam power to enter or leave the port pay one-third of the tariff of pilotage.

All vessels less than 50 tons gross measurement pay no pilotage provided they engage no pilot. Should they do so they pay according to the lowest figure in the tariff.

Vessels engaged in the coasting trade pay no pilotage provided they engage no pilot.

Spanish men-of-war and vessels belonging to the Spanish Government pay 50 per cent. less than the ordinary tariff of pilotage. Pilots called on board but not engaged in the actual exercise of their calling are entitled to one-half the regular tariff.

LIGHT DUES.

No light exists at the port of Santa Cruz del Sud.

TONNAGE DUES.

None, as at all other ports of the Island of Cuba.

QUARANTINE.

Quarantine seldom exists, and if infected vessels arrive they are subject to the quarantine regulations of the Island of Cuba.

OTTO E. REIMER,
Consul.

UNITED STATES CONSULATE,
Santiago de Cuba, September 12, 1889.

SAN DOMINGO.

PUERTO PLATA.

REPORT BY CONSUL SIMPSON.

PILOTAGE.

Pilotage is not compulsory either for foreign or national vessels, and all pay alike when one is taken. No foreign flag enjoys especial privileges, though the mail steamers of the Compagnie Générale Transatlantique (French), which call here monthly under a concession from this Government, pay but $4 each trip instead of regular rates. For vessels in distress or foreign war vessels there are no fixed charges, but a gratuity to pilot crew would be expected.

LIGHT DUES.

Light dues on steam or sail vessels, laden or in ballast, if they make an entry at custom-house, are payable only at ports where there is a light, and at all such ports every voyage.

The light at this port is in an iron frame tower painted lead color, about 1,000 feet east of entrance to harbor, 137 feet above the sea; revolves every 40 seconds and is visible about 15 miles.

The rate charged American vessels (and all others) is 6 cents per registered ton for sail and 1 cent per registered ton for steam, and is paid to custom-house through consignee. National vessels arriving from a foreign voyage pay at the same rate, but nothing when engaged in coastwise trade.

TONNAGE DUES.

All vessels, national or foreign, arriving from a foreign voyage laden or in ballast, if they come to an entry, pay same dues. The mail steamers of the French line before referred to pay no tonnage dues (except $4 to pilot and a like amount to doctor), but are not allowed to carry freight coastwise. The steamers of the Clyde line from New York, heretofore exempt from the payment of tonnage dues under a concession which recently expired, now pay regular rates, and are allowed to engage in coastwise trade. There is no discrimination in regard to flag, nor do vessels of any nationality, with the exception of those named, enjoy special privileges.

QUARANTINE.

There are no rules as to quarantine. Each port has its own sanitary committee, composed generally of the governor, port doctor, and another individual, who advise as to the admission of vessels proceeding from supposed infected ports, and on their recommendation the harbor master warns such vessels not to enter. No vessel from a port where cholera, smallpox, or yellow fever prevails would be allowed to enter.

The following are the port dues collected from all national or foreign vessels arriving from a foreign voyage, viz:

SAIL.

Tonnage	per register ton..	$1.00
Light dues	do....	.06
Pilot (when taken)	do....	.06
Entrance	do....	.06
Anchorage	do....	.06
Interpreter:		
Vessel 100 tons or under		2.00
Vessel 101 tons or more		4.00
Signal:		
Vessel 100 tons or under		2.00
Vessel 101 tons or more		4.00
Doctor		2.00

Vessels of less than 20 tons pay same dues, except as to interpreter, signal, and doctor, which are one-quarter above amounts.

Permit to load on coast is $1 per register ton additional. For a vessel changing from one open port to another there are no charges except for pilot.

STEAM.

Steamers pay on all cargo brought or taken	per ton..	$1.00
Light dues	per register ton..	.01
Pilot (when taken)	do....	.01
Entrance	do....	.01
Anchorage	do....	.01

Interpreter, signal, and doctor same as sail.

Round trips of steamers not going outside of the Republic are reckoned as one voyage.

THOS. SIMPSON,
Consul.

UNITED STATES CONSULATE,
Puerto Plata, September 10, 1889.

CONTINENT OF ASIA.

ASIATIC TURKEY.

BEIRUT.

REPORT BY CONSUL BISSINGER.

PILOTAGE.

Pilotage is optional in all cases for vessels of the country as well as for foreign vessels. Mail steamers and those calling regularly do not take a pilot, but most all other vessels upon their first arrival find it expedient to avail themselves of the services of an experienced pilot.

Pilotage being optional, there are no fixed fees; charges, however, do not usually exceed 10 francs ($1.93). The vessels of the country do not need or take a pilot, owing to their familiarity with the different roadsteads.

As pilotage is optional and fees regulated according to agreement, foreign flags do not enjoy special privileges.

Vessels in distress pay pilotage only in case they require or take a pilot. Men-of-war generally carry a pilot on board, especially when they touch places along the coast between Alexandria (Egypt) and Smyrna (Asia Minor). In case the services of a pilot are enlisted upon arrival, they are paid for according to agreement.

LIGHT DUES.

Light dues are the same for steamers and sailing vessels, laden or in ballast. Vessels whose tonnage is less than 5 tons are exempted from the tax, which is 20 paras (2.2 cents) up to 800 tons, and 10 paras (1.1 cents) for those exceeding 800 tons.

These dues are payable at every port in the same country, during the same voyage, for the reason that the entire coast line is provided with lights. The light dues are therefore exacted whether there is a light-house in the port touched or not.

American vessels pay the same rates as those of other nations. The light dues are collected from the shipmasters direct. Mail steamers pay these dues at Constantinople for all the ports touched along the coast instead of paying at each port. There is no discrimination either in favor of or against vessels of the United States. Men-of-war are exempted from light-house dues.

Turkish and coasting vessels pay the same dues as those of other nationalities, which are neither less nor greater than those charged vessels of the United States.

LIGHTS.

On the summit of the point northwest of Cape Beirut called "Ras-Beirut," at a distance of about 400 metres from its extremity, in latitude 33° 54′ N., longitude 35° 28′ E. of Greenwich, and longitude 33° 08′ E. of Paris, there is a white light with minute flashes and total eclipses. The elevation of the light above the level of the sea is 38 metres (124.8 feet), visible at a distance of 16 miles.

On a low point of the ruined castle near the custom-house and the sanitary office, in latitude 33° 54′ N., longitude 35° 29′ E. of Greenwich, and longitude 33° 09′ E. of Paris, a fixed red light is placed to enable vessels to anchor at night. The altitude of this light above the level of the sea is 18 metres (59.1 feet), and it is visible at a distance of 6 miles.

TONNAGE DUES.

Tonnage dues are only collected from Ottoman vessels. Sailing vessels in ballast pay 5 piasters (22 cents) for a visé only. Laden vessels pay 5 piasters for a visé and 20 paras (2.2 cents) per ton.

Only the steamers of the Ottoman company, known as the "Mahsoussé Line" are exempt from the tonnage dues; they pay, however, 5 piasters for a visé.

Vessels of foreign nationality enjoy immunity from tonnage dues.

QUARANTINE.

Every vessel that touches at a Turkish port should be furnished with a bill of health, which is to be shown to the officer of the sanitary office in charge. Vessels that do not possess a bill of health will be placed in the category of those carrying an unclean bill of health, unless the master is able to prove the contrary and in such a manner as to remove all doubt respecting the sanitary condition of the place of departure. In such a case the master lays himself liable to a fine amounting to 12 Turkish liras ($5.28).

The diseases quarantined are cholera, plague, and yellow fever.

The duration of quarantine for arrivals from a place infected with cholera is 10 days.

Vessels coming from an infected district which have had no cases of cholera on board during their passage are subjected to 10 days' quarantine. If, however, the trip has lasted 11 days the quarantine period will only be 9 days, and so on; *i. e.*, the term of the quarantine diminishes in an inverse ratio to the length of the passage until the period of 10 days is reached, as will be observed from the following scale:

The quarantine duration is, after a passage of—

	Days.
10 days	10
11 days	9
12 days	8
13 days	7
14 days	6
15 days	5
16 days	4
17 days	3
18 days	2
19 days and over	1

The above refers to vessels the sanitary condition of which is recognized as satisfactory, and whose cargo is beyond suspicion.

The dues for quarantine detention are 5 piasters (22 cents) per day and per person, payable by the passenger himself, unless he be a pauper.

The tax for fumigating merchandise is 3 piasters (13.2 cents) per 100 okes, to be paid by the owners of the goods (1 "oke"=2¾ pounds).

Hides and leather pay 10 piasters (44 cents) per 100 pieces; rags pay 10 piasters (44 cents) per bale; large-sized animals pay 1 piaster (4.4 cents) per head; sheep and smaller animals pay ½ piaster (2.2 cents) per head.

Fumigation expenses for vessels (to be paid by the owners) are, per day:

	Piasters.	
From 1 to 100 tons	10	=$0.44
From 100 to 200 tons	20	= .88
From 200 to 400 tons	30	= 1.32
From 400 to 1,000 tons and upwards	40	= 1.76

Children under 7 years of age and poor people are exempted from quarantine dues.

The following are exempt from all sanitary dues, except the wages of watchmen: Men-of-war; vessels that have been obliged to put into a port, on condition, however, that they do not undertake any commercial operations; fishing boats.

Small Turkish sailing vessels engaged in the coasting trade or in fishing are furnished with a license, which must be renewed on the 1st of March of each year, and for which they pay 10 piasters (44 cents). These licenses are to be viséed at every port, and the vessels to which they are issued must pay the legal tonnage dues at each port.

QUARANTINE TONNAGE DUES.

Every vessel, from whatever port she may be coming, pays, upon her arrival at a Turkish roadstead, a quarantine tonnage fee, calculated on her tonnage, according to the following rule: From 1 to 500 tons, inclusive, 20 paras (2.2 cents) per ton; from 501 to 1,000 tons, 12 paras (1.3 cents); from 1,001 tons and upwards, 8 paras (.88 cent). In other words, every vessel pays 20 paras for the first 500 tons burden, 12 paras for the next 500 tons, and 8 paras for every ton exceeding 1,000.

Vessels arriving in a Turkish port are only subject to the above tax once in the course of their voyage and without comprising therein the intermediate stations.

Vessels having Constantinople for their final destination pay the tonnage fees at the capital, and once only for all the ports touched.

QUARANTINE REGULATIONS.

The quarantine regulations are not established by the General Government, but by an international commission having its seat in Constantinople. The General Government, however, is represented in the sanitary supreme council, and although all offices in the Empire are under the Turkish flag, the provinces or municipalities have nothing to do with the measures adopted by the sanitary offices, which are directly dependent on the sanitary administration of the Turkish Empire in Constantinople.

ERHARD BISSINGER,
Consul.

UNITED STATES CONSULATE,
Beirut, September 5, 1889.

JAFFA.

REPORT BY CONSUL GILLMAN, OF JERUSALEM

PILOTAGE.

There being needed no pilotage at this port, Jaffa, there are no pilot charges.

LIGHTS AND LIGHT DUES.

The light dues on steam and sail vessels, laden or in ballast, are: For vessels from 1 to 800 tons, 20 paras per ton (2.125 cents); for vessels upwards of 800 tons, 10 paras per ton (1.062 cents). Light dues have to be paid at every port in Turkey during the same voyage, whether there is or is not a light.

The general character of the Jaffa light is as follows: It is a revolving light, sending every minute seaward alternate flashes of red and white. Its altitude is 75 feet above the level of the sea. The red light is visible at a distance of 14 miles, the white at a distance of 18 miles.

If there is no agency of a steam company at the port the light charges are collected direct from the shipmaster. There is no discrimination observed as to the shipping of the United States, Turkey, or any other nationality, all being taxed alike. War vessels are the only exception.

TONNAGE DUES.

At this port tonnage dues bear the name of quarantine dues, and are collected from all classes of vessels, whether on the foreign or coasting trade, laden or in ballast.

Tonnage or quarantine dues are: For vessels from 1 to 500 tons, 20 paras (2.125 cents) per ton; from 500 to 1,000 tons, 12 paras (1.275 cents) per ton; 1,000 tons and upwards, 8 paras (.850 cent) per ton. Only the vessels of Turkish nationality enjoy the privilege of paying 5 piasters (21.25 cents) when in ballast.

The tonnage dues are paid only once during the same voyage.

QUARANTINE.

There is no quarantine building or station at Jaffa. Foul vessels are, with crew and passengers, directed to the lazaretto at Beirut.

The diseases quarantined are the plague, cholera, and yellow fever.

HENRY GILLMAN,
Consul.

UNITED STATES CONSULATE,
Jerusalem, September 3, 1889.

BRITISH ASIA.

BOMBAY.

The following report was prepared by Captain Dean, acting port officer, at the request of Consul Bonham:

PILOTAGE.

By section 31 of act x of 1889, pilotage is compulsory on all merchant vessels of 200 tons or upwards, whether British or foreign. The pilotage charges for British and foreign merchant vessels are alike. No special privilege has been given to any foreign merchant vessel as regards pilotage. Vessels in distress pay pilotage to such an extent as the port trustees deem desirable. Foreign war vessels are exempted from payment of pilotage if the services of pilots are not obtained, and if so, pilotage is charged according to the scale laid down for British and foreign men-of-war in the pilotage by-laws.

Under the provisions of sections 42 and 61 of the "Indian ports act, 1875," the following scale of pilotage and transporting fees on merchant ships and steamers at the port of Bombay and the following rules with reference thereto have been sanctioned, the same to come into effect on and after September 1, 1887:

Pilotage.

[Merchant vessels net registered tonnage.]

From—	Steamers.		Sailing ships.	
	Fair season.	Southwest Monsoon season.	Fair season.	Southwest Monsoon season.
	Rupees.	*Rupees.*	*Rupees.*	*Rupees.*
100 to 300 tons	25	37	41	62
300 to 400 tons	27	40	45	66
400 to 500 tons	30	42	49	70
500 to 600 tons	32	45	54	74
600 to 700 tons	35	47	58	78
700 to 800 tons	37	49	62	82
800 to 900 tons	40	52	66	87
900 to 1,000 tons	42	54	70	91
1,000 to 1,100 tons	45	57	74	95
1,100 to 1,200 tons	47	59	78	99
1,200 to 1,300 tons	49	62	82	103
1,300 to 1,400 tons	52	64	87	107
1,400 to 1,500 tons	54	67	91	111
1,500 to 1,600 tons	57	69	95	115
1,600 to 1,700 tons	59	72	99	120
1,700 to 1,800 tons	62	74	103	124
1,800 to 1,900 tons	64	77	107	128
1,900 to 2,000 tons	67	79	111	132
2,000 to 2,100 tons	69	82	115	136
2,100 to 2,200 tons	72	84	120	140

and an increase of 4 rupees 2 annas for every 100 tons or part of 100 tons, on sailing ships, and 2 rupees 8 annas for every 100 tons, or part of 100 tons, on steamers above this tonnage during the fair season; and in addition thereto an extra rate of 20 rupees 10 annas on sailing ships and 12 rupees 5 annas on steamers during the southwest monsoon.

NOTE.—Fractions of a rupee amounting to 8 annas and under will not be charged; over 8 annas will be charged as 1 rupee.

Transporting fees.

For sailing vessels:	Rupees.
1,500 tons and upwards	30
1,000 tons to 1,500 tons	25
Under 1,000 tons	20
For steamers using their own engines:	
From one berth to another south of Cross Island or to or from any of the docks or to any berth north of Cross Island, or *vice versa*	20
Transporting north of Cross Island	15
Sailing ships or steamers towed to or from any dock north of Cross Island from or to fixed moorings north of Cross Island will be charged	15

A steamer towed will be charged at sailing ship rates.

Pilotage and transporting fees are levied on Indian Government vessels on the same scale as on merchant vessels.

A pilotage fee shall be held to cover the services of a pilot for all duties connected with the movement and anchorage of a vessel for a period of at least 12 hours from the time of joining the vessel, if his services are required for so long.

If a pilot, after having been applied for, goes on board and the vessel is not ready to proceed to sea, or to move from one part of the harbor to another part, or to dock, as the case may be, the same day, a fee of 20 rupees will be charged as "pilot's attendance."

When a pilot is appointed to transport a vessel into dock and it does not enter the dock the same day, if through no fault of the pilot, a second transporting fee will be charged, if the vessel is docked by the pilot on the following or on any subsequent day.

For vessels (steamers) of under 1,000 tons burden (registered) whose masters have obtained a pilot's license for the outer harbor, half pilotage fees only will be charged when the said masters pilot their steamers from or to the Sunk Rock Light.

Special pilotage: For taking a vessel to Hog Island, Butcher's Island, or Nocar Point, a single pilotage fee shall be charged instead of transporting. For vessels proceeding on a trial trip a single pilotage fee shall be charged instead of transporting.

Vessels arriving with gunpowder, if not moored in the harbor on the day of arrival, shall pay an attendance fee of 20 rupees.

The southwest monsoon season commences on June 1 and terminates on September 30 in each year.

By order,

G. MANSON,
Secretary.

Description.	Fair season.	Monsoon.
Pilotage.	*Rupees.*	*Rupees.*
Ships of the line or of fifty guns	100	140
Frigates or sloops of war	74	100
Brigs, schooners, etc.	50	75
Transportating (hauling in or out of dock).		
Men-of-war or ships of the line	100	140
Frigates and sloops of war	50	75
Gun vessels and all other vessels below the class of sloop of war	30	30

LIGHT DUES.

Light dues are collected by the customs department.

PORT DUES.

Port dues are charged on all square rigged merchant vessels, whether British or foreign, at the rate of 1 duna per register ton when with cargo, and 9 pices per register ton when in ballast but not carrying passengers. Port dues are not charged on vessels, whether on the foreign or coasting trade, more than once in the same month. No special privilege has been given to any nationality as regards payment of port dues.

I attach a copy of rules *regarding* quarantine.

Bombay quarantine rules.

APPENDIX A.

1. The master of every vessel on board of which there is, either among the passengers or crew, any case of cholera, smallpox, or other epidemic disease common in India, shall report such case or cases to the pilot or other boarding officer at the earliest opportunity, or, in the absence of a pilot or other boarding officer, shall hoist a signal, which shall be during the day flag R of the commercial code, at the main, and during the night two lighted lanterns, one over the other, at the fore.

2. The port officer, having received information from the pilot or other boarding officer, or by signal, that any case of such disease is on board, shall communicate the information to the health officer of the port.

3. The health officer, as early as possible after receipt of this information, shall inspect the vessel, and more especially its sanitary condition; shall inquire into the circumstances attending the case or cases of the said disease; and shall arrange for the conveyance of all persons suffering from such disease to a hospital, unless the sick person or his friends can make adequate provision elsewhere.

4. The latter part of rule No. 3, is, however, not to be enforced in the case of passengers bound for an onward port, unless under the clearest necessity, and of every such case a special report explaining the reasons for the action taken, must be submitted to the government.

5. Where the disease or diseases in question are limited to one or two cases, the vessel shall not be prohibited from taking the usual place of anchorage in the harbor, nor shall the passengers be detained on board pending the inspection of the health officer; but the master of the vessel shall be held responsible that no passenger suspected of having such disease is allowed to depart before the inspection.

6. Where cases have been more numerous than one or two, or when, from their occurring on pilgrim or emigrant ships, or for other special reasons, further precautions may be deemed advisable, the vessel shall anchor in the place appointed for the purpose; and none of the passengers shall be allowed to leave until the health officer has made his inspection.

7. Vessels coming under this last rule shall be thoroughly cleansed and fumigated, under the directions of the health office. In the case of smallpox, it shall be his duty to vaccinate or have vaccinated all those on board who appear to require this protection and are willing to accept it.

APPENDIX B.

1. The commander of every vessel, including buggalows or other native craft, arriving from a port where plague or yellow fever prevails, shall, before entering the harbor, indicate by signal the port from which she has come.

2. Such commander shall not, without having first obtained permission as hereinafter provided, allow any communication either with the pilot boat, except orally, or with the shore, or with any other vessel or boat in the harbor.

3. Immediately on the signal of such arrivals being made, the health officer of the port shall go alongside the vessel, and ascertain by inquiry from the commander whether any person on board is then suffering or has during the voyage suffered, from plague; and if such officer is satisfied by such inquiry that no such case has occurred, he shall by writing under his hand, to be delivered to the commander, permit free communication between such vessel and the shore, and with other vessels and boats in the harbor.

4. If the health officer shall have reason to believe that any such case has occurred, he shall direct the commander to take the vessel to the quarantine anchorage duly appointed and notified by government, there to remain for the space of 15 days from the day of arrival in the harbor, or from the date of the occurrence of the latest case of illness, and shall further direct the commander to prohibit during the said 15 days all communication, except such as is hereinafter provided for, between such vessel and the shore, or other vessels or boats in the harbor. The health officer may further direct the removal of so many of the passengers and crew as may not be suffering from sickness, and whose services may not be required on board the ship, to such particular spots as may from time to time be fixed upon by the local government as places of quarantine, there to remain for a space of 15 days, or in the event of the occurrence of a case of sickness, for a space of 15 days from the date of the occurrence of the last case.

5. Any mails or cargo which may be brought by any vessel so arriving shall be landed under such precautions as may be deemed necessary by the health officer to prevent the spread of the disease.

6. It will be the duty of the superintendent of marine to facilitate the conveyance to the vessel in quarantine of all supplies of provisions, stores, and other articles required by those on board. These supplies should be placed on the boats of the *vessel, to be* subsequently removed by members of her crew.

CALCUTTA.

REPORT BY CONSUL-GENERAL BONHAM.

On the 26th instant I transmitted a copy of the "harbor circular" to the Calcutta port officer with a request that he furnish me with the information called for in said circular. With commendable dispatch the matter was referred by the port officer to S. Manson, esq., a branch pilot of this port, who kindly furnished me with the information called for, except the answer to question 3 under the head of "light dues," as you will observe from the copy of said circular appended to Mr. Manson's report.

B. F. BONHAM,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Calcutta, August 31, 1889.

REPORT OF CALCUTTA PORT OFFICER.

[Inclosure 1 in Consul-General Bonham's report.]

PILOTAGE.

Pilotage is compulsory on all vessels. It is charged according to the draft of a vessel, a copy of schedule is attached.* The charges are the same for Indian as foreign vessels.

No foreign flag enjoys special privileges.

Vessels in distress and foreign war vessels pay pilotage.

LIGHT DUES.

Dues are not payable more than once for the same light and for the same voyage.

Light dues are levied on vessels passing or deriving benefit from any of the lights mentioned in the attached schedules.

This information can be had from the list of lights in British India; copies of this list can be had from the superintendent of government printing, India,† at one rupee each. The new list is under revision at present and is expected to be issued shortly.

Rates charged per ton, per voyage, and the dues are collected by the collector of customs. No discrimination for or against American vessels. The dues are the same for vessels of all nations.

TONNAGE DUES.

Port dues abolished in Calcutta.

QUARANTINE.

The vessels quarantined pay all expenses. Quarantine rules are established by the Indian government, and are as follows:

1. The commander of every vessel, including buggalows or other native craft, arriving from a port where plague, yellow fever, or some fatal epidemic not ordinarily prevalent among Indian populations, prevails, shall, on arrival at the Sandheads, hoist a yellow flag and indicate by signal the port from which she has come, and shall keep such flag and signal flying until permitted to take it down as hereinafter provided.

2. Such commander shall not, without having first obtained permission as hereinafter provided, allow any communication with the shore or with any other vessel or boat, excepting only with the boat supplying the pilot from the pilot brig, and in that case communication shall be limited to receiving on board the pilot, his leadsman, servant, and baggage.

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* See inclosure 2. † See inclosure 3.

3. The pilot shall not take such vessel higher up the river than Diamond Harbor, but shall anchor it there until the health officer of the port has visited it and ascertained by inquiry whether any person on board is then suffering, or has during the voyage suffered from such disease as aforesaid; and if such officer is satisfied by inquiry that no such case has occurred he shall, by writing under his hand, to be delivered to the commander, permit such vessel to haul down the yellow flag and proceed upwards to the port and to hold free communication with the shore and with other vessels and boats in port.

4. If the health officer shall have reason to believe that any such case has occurred, he shall direct the commander to detain the vessel at the quarantine anchorage at Diamond Harbor for the space of 15 days from the day of arrival there, or from the date of the occurrence of the latest case of illness, and shall further direct the commander to prohibit, during the said 15 days, all communication except such as is hereinafter provided for between such vessel and the shore or other vessels or boats in the harbor. The health officer may further direct the removal of so many of the passengers and crew as may not be suffering from sickness, and whose services may not be required on board the ship, to such particular spots as may from time to time be fixed upon by the local government as places of quarantine, there to remain for a space of 15 days, or, in the event of the occurrence of a case of sickness, for a space of 15 days from the date of the occurrence of the last case. The health officer may permit the pilot, with his leadsman and servants, to leave the vessel at any time after such precautionary disinfection of their persons and baggage as he may think necessary, or may direct that they remain in quarantine along with the passengers and crew.

5. Any mails or cargo which may be brought by any vessel so arriving shall be landed under such precautions as may be deemed necessary by the health officer to prevent the spread of the disease.

6. It will be the duty of the port officer to facilitate the conveyance to the vessel in quarantine of all supplies of provisions, stores, and other articles required by those on board. These supplies should be placed on the boats of the vessel, to be subsequently removed by members of her crew.

MEDICAL INSPECTION RULES.

The following rules for the medical inspection of vessels are issued by the lieutenant-governor, with the previous sanction of the governor-general in council, for the guidance of the port officer, pilots, and health officer of the port of Calcutta, and they take effect from August 1, 1879:

1. The master of every in coming vessel, on board which there is, either among the passengers or crew, any case of cholera, smallpox, or other epidemic disease common in India, shall report such case or cases to the pilot immediately upon his going on board at the Sandheads, and the pilot shall hoist a signal, which shall be, during the day, flag R of the commercial code, at the main; and during the night two lighted lanterns, one over the other, at the fore.

2. The port officer, on receiving information by telegraph from Saugor, or any telegraph station, that a vessel carrying this signal has passed the station upwards, shall at once communicate the information to the health officer of the port.

3. The health officer, as early as possible after receipt of this information, shall inspect the vessel, and more especially its sanitary condition; shall inquire into the circumstances attending the case or cases of the said disease; and shall arrange for the conveyance of all persons suffering from such disease to a hospital, unless the sick person or his friends can make adequate provision elsewhere.

4. Where the disease or diseases in question are limited to one or two cases, the vessel shall not be prohibited from taking up the usual place of anchorage in the port, nor shall the passengers be detained on board pending the inspection of the health officer; but the master of the vessel shall be held responsible that no passenger suspected of having such disease is allowed to depart before this inspection.

5. Where cases have been more numerous than one or two, or when, from their occurring on pilgrim or emigrant ships, or for other special reasons, further precautions may be deemed advisable, the vessel shall anchor at Meteaburj Ghât, and none of the passengers shall be allowed to leave until the health officer has made his inspection.

6. Vessels coming under this last rule shall be thoroughly cleansed and fumigated under the directions of the health officer. In the case of smallpox, it shall be his duty to vaccinate, or have vaccinated, all those on board who appear to require this protection and are willing to accept it.

S. RANSOM,
For PORT OFFICER OF CALCUTTA.

CALCUTTA PORT OFFICE,
August 27, 1879.

PILOTAGE FEES.

[Inclosure 2 in Consul-General Bonham's report].

Revised scale of pilotage fees payable on ships visiting the port of Calcutta.

[Steamers or sailing vessels taking steam from any part of the distance are entitled to a reduction of one-fourth from the charges for such portion of the distance.]

INWARD.

Draft.	Full pilotage.	Intermediate or broken pilotage.										
		1/10	2/10	3/10	4/10	5/10	6/10	7/10	8/10	9/10	10/10	11/10
Not exceeding 8 feet.....	54	5	9	14	18	23	27	31	36	40	45	49
8 feet and not exceeding 9...	85	8	15	22	29	36	43	50	57	64	71	78
9 feet and not exceeding 10..	117	10	20	30	39	49	59	69	78	88	98	108
10 feet and not exceeding 11..	139	12	24	35	47	58	70	81	93	104	116	127
11 feet and not exceeding 12..	160	14	27	40	54	67	80	93	107	120	133	147
12 feet and not exceeding 13..	181	16	31	46	61	76	91	106	121	136	151	166
13 feet and not exceeding 14..	213	18	36	54	71	89	107	124	142	160	178	195
14 feet and not exceeding 15..	245	21	41	62	82	102	123	143	163	184	204	225
15 feet and not exceeding 16..	287	24	48	72	96	120	144	168	192	216	240	263
16 feet and not exceeding 17..	340	29	57	85	114	142	170	199	227	255	284	312
17 feet and not exceeding 18..	394	33	66	99	132	164	197	230	263	295	328	361
18 feet and not exceeding 19..	447	38	75	112	149	186	224	261	298	335	372	410
19 feet and not exceeding 20..	510	43	85	128	170	213	255	298	340	383	425	468
20 feet and not exceeding 21..	574	48	96	144	192	240	287	335	383	431	479	526
21 feet and not exceeding 22..	627	53	105	157	209	262	314	366	418	471	523	575
22 feet and not exceeding 23..	680	57	114	171	227	284	341	397	454	511	567	624
23 feet and not exceeding 24..	744	62	124	186	248	310	372	434	496	558	620	682
24 feet and not exceeding 25..	850	71	142	213	284	355	425	496	567	638	709	780
25 feet and not exceeding 26..	1,001	84	167	251	334	418	501	589	668	751	835	918
26 feet and not exceeding 27..	1,175	98	196	294	392	490	588	686	784	882	980	1,078

OUTWARD.

Not exceeding 8 feet.....	54	5	9	14	18	23	27	31	36	40	45	49
8 feet and not exceeding 9..	85	8	15	22	29	36	43	50	57	64	71	78
9 feet and not exceeding 10..	128	11	22	32	43	54	64	75	85	96	107	117
10 feet and not exceeding 11..	149	13	25	37	50	62	74	87	99	111	124	136
11 feet and not exceeding 12..	170	15	29	43	57	71	85	100	114	128	142	154
12 feet and not exceeding 13..	192	16	32	48	64	80	96	112	128	144	160	176
13 feet and not exceeding 14..	224	19	38	56	75	93	112	131	149	168	186	205
14 feet and not exceeding 15..	255	22	43	64	85	107	128	149	170	192	213	234
15 feet and not exceeding 16..	309	26	52	78	103	129	155	180	206	232	57	283
16 feet and not exceeding 17..	383	32	64	96	128	160	192	224	255	287	319	351
17 feet and not exceeding 18..	447	38	75	112	149	186	224	261	298	335	372	410
18 feet and not exceeding 19..	500	42	84	125	167	209	250	292	333	375	417	458
19 feet and not exceeding 20..	574	48	96	144	192	240	287	335	383	431	479	526
20 feet and not exceeding 21..	638	54	107	160	213	266	319	372	425	479	532	585
21 feet and not exceeding 22..	691	58	116	173	231	288	346	403	461	518	576	634
22 feet and not exceeding 23..	744	62	124	186	248	310	372	434	496	558	620	682
23 feet and not exceeding 24..	819	69	137	205	273	341	410	478	546	614	682	750
24 feet and not exceeding 25..	935	78	156	234	312	390	468	546	624	702	780	858
25 feet and not exceeding 26..	1,102	92	184	276	368	459	551	642	733	825	917	1,009
26 feet and not exceeding 27..	1,275	107	213	319	425	532	638	744	850	957	1,063	1,169

BRITISH INDIA LIGHT-HOUSES—BURMAH COAST LIGHTS.

[Inclosure 3 in Consul Bonham's report.]

[Act IX of 1879.]

Schedule. (*See section* 4.)

1. A voyage to or from Chittagong or any place west of the longitude of Chittagong—(*a*) from or to any port in British Burmah; or (*b*) from or to any port in the Andaman and Nicobar Islands, or any place east of the longitude of Mergui by a course passing between the northern extremity of the Andaman Islands and the Coast of British Burmah.

2. A voyage to or from any port in British Burmah—from or to any other port in British Burmah, except voyages to or from Moulmein, from or to Tavoy or Mergui, or to or from Tavoy, from or to Mergui.

3. A voyage to or from Rangoon and any port in British Burmah west of the longitude of Rangoon—from or to any place east of the longitude of Mergui.

4. A voyage to or from any port in British Burmah other than Tavoy or Mergui—from or to any port in the Andaman and Nicobar Islands.

NOTE.—Every vessel of the burden of 50 tons and upwards making any voyage mentioned in the above schedule shall pay coast-light dues at the rate of 1 anna and 6 pie per ton of burden.

STRAITS LIGHTS.

[Act No. XIII of 1854.]

SEC. 4. If, after the passing of this act, any ship of the burden of 50 tons or upwards shall depart from or enter any port, harbor, or roadstead in the possession or under the government of the East India Company, upon or during or at the termination of any voyage in the ordinary course of which she would pass any of the said lights, a toll shall be paid in respect of such ship, except in the cases hereinafter mentioned, at the following rates, that is to say—

(1) If the voyage be one in the ordinary course whereof such ship would pass the whole of the said lights, at the rate of 1 anna for every ton of her burden.

(2) If the voyage be one in the ordinary course of which she would pass any one or more of the said lights, but not all of them, at the rate of half an anna for every ton of her burden: *Provided*, That such toll shall not be payable at any such port or place under the government of the East India Company in respect of the same voyage, and proper voucher for such payment shall be produced or other satisfactory proof of such payment given.

SEC. 5. The return of a ship from any port or place shall be deemed a distinct voyage within the meaning of the act, notwithstanding tolls shall have been paid in respect of her voyage to such port or place, and notwithstanding the terms of any charter party.

SEC. 12. The collector or other chief officer of customs at any port, harbor, or place in the possession or under the government of the East India Company, or any other officer whom the government to which such port, harbor, or place is subordinate may appoint to receive the tolls above mentioned, shall collect the same by himself, or by any officer in his establishment whom he shall appoint.

GREAT AND LITTLE BASSES AND MINICOY LIGHTS.

Every ship which in the same voyage by the southward of Ceylon shall cross a line drawn from the southernmost point of Ceylon to the northwesternmost point of the island of Sumatra, and also a line from the southernmost point of Ceylon to Cape Guardafui on the eastern coast of Africa, and *vice versa*.

Every ship which in any voyage to or from any place in the Maldive Islands shall cross a line drawn from the southernmost point of Ceylon to the northwesternmost point of Sumatra.

Every ship which in any voyage from any port on the eastern coast of Africa, south of Cape Guardafui, or from any port in Madagascar, Bourbon, Mauritius, or any island adjacent to the same, including the Seychelles and the Chagos Islands, or in any voyage in which such ship shall have rounded the Cape of Good Hope eastward, shall cross a line drawn from the southernmost point of Ceylon to the southernmost point of the coast of Tenasserim, and shall, between the 1st day of April and the 30th day of September, both included, arrive at any port situated north of such line.

Every ship which having departed between the 1st day of October and the 31st day of March, both included, from any port situated to the northward of such last-mentioned line, and also to the westward of the ninetieth meridian of longitude east from Greenwich, in any voyage to any port on the eastern coast of Africa south of Cape Guardafui, or to any port in Madagascar, Bourbon, Mauritius, or any island adjacent thereto, including the Seychelles and the Chagos Islands, or in any voyage in which such ship shall round the Cape of Good Hope westward, shall cross the latitude of the Great Basses Light-house, or the Little Basses Light-house, on the eastward side of the said light-houses, will pass the said Great Basses Light-house and the said Little Basses Light-house, and will derive benefit therefrom.

And whereas the several classes of ships following, that is to say: Every ship which in any voyage shall or may pass between the Laccadive Islands and the Maldive Islands through the channel known as the "Nine Degree Channel," north of Minicoy Islands, or through that known as the "Eight Degree Channel," south of Minicoy Island, will pass the said Minicoy Light-house and will derive benefit therefrom.

Now, therefore, Her Majesty, in exercise of the powers vested in her by the said recited acts, by and with the advice of her privy council, is pleased to direct that from and after the date of this order the dues heretofore levied in respect of the Great Basses Light-house and the Little Basses Light-house under the said order of the 11th day of November, 1869, shall cease to be levied, and the dues specified in the schedule marked A, hereunto annexed, shall be levied in lieu thereof.

And that from and after the date of the first exhibition of a light from the said Minicoy Light-house, the dues specified in the schedule marked B, hereto annexed, shall be levied in respect thereof.

SCHEDULE A.—*Dues leviable in respect of the Great Basses Light house and the Little Basses Light-house.*

For every ship on every voyage in which she passes or derives benefit from the lights, per ton of the burden of such ship: In the United Kingdom, 1½ pence; in India, 15 pies; in Ceylon, Mauritius, and the Seychelles, 7½ cents. of a rupee; in the Straits Settlements, 3½ cents. of a dollar.

SCHEDULE B.—*Dues leviable in respect of Minicoy Light-house.*

For every ship on every voyage in which she passes or derives benefit from the light, per ton of the burden of such ship: In the United Kingdom, one-half penny; in India, 5 pies; in Ceylon, Mauritius, and the Seychelles, 2½ cents. of a rupee; in the Straits Settlements, 1 cent of a dollar.

CEYLON.

REPORT BY VICE-CONSUL PATERSON, OF COLOMBO.

PILOTAGE.

Pilotage is compulsory in all cases, for home as for foreign vessels.

Pilot charges are the same for vessels of the country as for foreign vessels.

No foreign flag enjoys special privileges in this regard. Vessels in distress and foreign war vessels pay pilotage.

LIGHTS AND LIGHT DUES.

There are light dues on steam and sail vessels laden or in ballast.

Rate charges for all laden vessels are: For Basses, 7½ cents; Minicoy, 2½ cents per ton on the net registered tonnage.

General character of lights, altitude, distance visible, etc.

No.	Name of light.	Location.	Latitude (north).	Longitude (east).	Number and relative position.	Color.	Character.	Interval of revolution or flash.
			° ′ ″	° ′ ″				
73	Colombo (breakwater pier head.	On the breakwater pier head.	.....	.....	1	Red...	F.....	.....
73*a*	Colombo harbor.	Near face of harbor rubble bank on the eastern side of exportation jetty.	.....	.....	1	Green.	F.....	.....
73*b*	....do	800 feet inland, or to the southward of the green landing light.	.....	.....	1	Red...	F.....	.....
74	Point de Galle.	On the southwest bastion of the fort west side of harbor.	6 01 25	80 12 32	1	White.	F.....	.....
75	Great Bassas ..	On the northeast rock.	6 10 10	81 28 00	1	Red...	Rev	Every 45 seconds.
76	Little Bassas ..	On reef.....	6 23 00	81 43 00	1	White.	Fl	2 flashes every minute, i. e., a flash of 7 seconds' duration, an eclipse 8 seconds, then a flash of 7 seconds' duration, followed by an eclipse of 38 seconds.
77	Batticaloa	On the flagstaff on the mainland, at the watchhouse near the bar entrance to Batticaloa Lake.	7 43 50	81 41 20	1	White.	F.....	.....
78	Trincomalie or Foul Point or	On Foul Point, extreme entrance to harbor.	8 32 10	81 18 30	1	White.	F. and Fl.	Every 30 seconds.
79	Round Island..	On the summit of Round Island.	8 31 40	81 13 15	1	White.	F.....	.....

General character of lights, altitude distance, visible, etc.—Continued.

No.	Visible in clear weather.	Arc of illumination (bearings are magnetic and from seaward).	Nature of construction, color, or any peculiarity of light-house.	Height of center of lantern above high water.	Height of building from base to vane.	Character and order of illuminating apparatus.	Year lighted.	Remarks.
	Miles.			*Feet.*	*Feet.*			
73	13	.....	.....	56	49	D 2d ord.	1881*	A harbor light for rounding pier head.
73a	8	60 degrees.	Lantern hoisted to a masthead.	42	.....	D 6th ord	1883*	These 2 lights are intended to lead vessels up the harbor after rounding the pier head. The 2 lights kept in 1 lead up midway between the second and third tier of buoys from breakwater.
73b	8	60 degrees.	....do	50	.....	...do	1883	
74	12	200 degrees.	White iron tower.	100	80	C 2d ord.	1848	For vessels making the port, and also for ships rounding the island of Ceylon on their course either to the eastward or westward. A first-class light is sanctioned for this port, and will probably be placed on Oonawatty Point.
75	16	All round the compass.	Granite masonry. The lantern has a conical roof, and there is a gallery at the top of the tower.	110	127	D 1st ord	1873	In foggy weather a bell is sounded at intervals of 15 seconds.
76	16	...do	Granite masonry. The lantern has a domed roof, and there are 2 galleries at the top of the tower.	110	.....	...do	1878	During thick or foggy weather a bell is sounded twice in quick succession every half minute.
77	8	220 degrees; or, to the northward and southward.	Flagstaff.....	50	.....	A large dioptric lantern.	1878	
78	17	All round the compass.	Round gray tower of Portland cement.	104	120	D 2d ord.	1863	The faint light between the flashes is not visible beyond 10 miles.
79	10†	...do	....do	103	69	D 4th ord	1863	To enable vessels to enter or leave the port at night.

*Altered in 1885.
†Reported as being visible 16 miles.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels, whether on the foreign or coasting trade. There is no discrimination in regard to flag. No vessels of any nationality enjoy special privileges.

QUARANTINE.

The ship quarantined bears the expenses of detention and fumigation as to passengers and cargo.

Quarantine rules are established by the general government.

W. B. PATERSON,
Vice-Consul.

UNITED STATES CONSULATE,
Ceylon, November 25, 1889.

HONG-KONG.

REPORT BY VICE-CONSUL WITHERS.

PILOTAGE.

Pilots are licensed by the colonial government, but are not servants of the government. Pilotage is not compulsory. There are no pilot charges except such as may be paid by mutual agreement. This is the case with all vessels entering the harbor.

LIGHT DUES.

Light dues are not payable at more than one port in this consular district.

All vessels entering the harbor, except river steamers and junks (native crafts), are required to pay 1 cent per registered ton. River steamers, entering by day, and junks are not required to pay light dues, but river steamers entering by night pay one-third of a cent per registered ton.

There are 3 light-houses in the district, each displaying a fixed white light. Their lights are respectively 200, 95, and 200 feet above the sea, and are visible 23, 14, and 8 miles.

The charges are the same for American as for other vessels. There are no further charges for vessels, whatever their nationality. These dues are paid directly by the shipmaster.

TONNAGE DUES.

There are no tonnage dues.

QUARANTINE.

Every vessel arriving in the waters of the colony (1) after a voyage of less than 3 days from any port or place at which any infectious or contagious disease prevailed at the time of such vessel's departure therefrom; or (2) having at the time of arrival, or having had during the voyage, any case of any infectious or contagious disease on board; or (3) having on board any passengers who are less than 3 days from any port or place where any infectious or contagious disease prevailed when such passengers departed therefrom, shall, immediately on entering the waters of the colony, fly the quarantine flag, and shall keep the same flying, and shall be deemed to be in quarantine until released therefrom by express written orders of the health officer, who shall, in every case, board and examine all the passengers and crew of such vessel.

The quarantine flag shall be a flag of yellow color (letter Q in international code of signals) hoisted at the highest masthead forward.

No such vessel shall enter the waters of the colony before 6 a. m. or after 7 p. m.

Every vessel in quarantine shall proceed to the quarantine anchorage, and shall not remove therefrom except from stress of weather until released from quarantine by order of the health officer. No vessel having to leave the quarantine anchorage from stress of weather shall communicate with the shore or with any ship, and such vessel shall return to the quarantine anchorage immediately such stress of weather has

subsided: *Provided*, That in case of stress of weather involving probable actual danger to the vessel, the vessel may remove for a time, but shall be deemed nevertheless for all purposes to be in quarantine, and subject to all other regulations applicable to such vessel.

The quarantine anchorage shall be within certain prescribed boundaries.

There is also a lazaretto to which the health officer may order the removal of such persons as he thinks fit from any vessel in quarantine, and the master of any such vessel from which such persons are ordered to be removed shall conduct their removal according to the orders of the health officer.

No vessel in quarantine shall be released from quarantine except by the express written order of the health officer, nor until such precautions, by way of burning clothing, or fumigating, or otherwise, as may be ordered by the health officer, have been carried out. If the vessel arrives from a port or place where cholera or choleraic diarrhea prevailed at the time of its departure, or if there has been any case of any such disease on board the vessel or any death therefrom, the vessel shall not be released from quarantine until 3 clear days have elapsed since the date of the vessel's departure from such port or place, or since any person was suffering from or died from any such disease on board such vessel, as the case may be.

If any vessel in the waters of the colony is known to have any case of any infectious or contagious disease on board, or is a vessel which in the opinion of the health officer ought, according to these regulations, to be in quarantine, the health officer may order such vessel into quarantine, and the master or person in charge of such vessel shall thereupon hoist the quarantine flag upon such vessel and remove the vessel to the quarantine anchorage, and all the regulations applicable in relation to vessels in quarantine shall apply to such vessel.

In case of a death happening on board any vessel in quarantine, or ordered into quarantine, or in the lazaretto, the body shall be disposed of in such manner as may be ordered by the health officer, and the master of the vessel shall carry out such orders as the health officer may give him in relation to the disposal of the body.

When any quarantine vessel is in the waters of the colony, no person shall leave the vessel or hold communication from the vessel with the shore, or with any other vessel or boat, or take or send any person or thing whatever out of the vessel, until the express written permission of the health officer has been communicated to the master or other person having the control of the vessel, and such precautions as the health officer may require have been observed.

When any vessel is in quarantine, no person other than the health officer or persons in his boat shall approach within 30 yards of such vessel, or hold any communication with such vessel, or with any person on board of it, or receive or take any person or thing whatever directly or indirectly from the vessel or from any person on board of it, without having first received the express written permission of the health officer and observing such precautions as the health officer may require.

No person placed in the lazaretto shall leave the same, or hold communication with any vessel or boat, or take or send any person or thing whatever out of the lazaretto without having first received the express written permission of the health officer and observed such precautions as the health officer may require.

No person other than the health officer or persons expressly deputed by him, shall enter the lazaretto or approach within thirty yards

of the boundaries thereof, or hold communication with the lazaretto or with any person in it, or receive or take anything whatever directly or indirectly from the lazaretto, or from any person in it, without having first received the express written permission of the health officer and observing such precautions as the health officer may require.

The captain, superintendent of police, and any officers that he may appoint for the purpose of enforcing quarantine, may order any person leaving or coming from any vessel that is in quarantine or from the lazaretto, or taking or sending any person or thing whatever from any such vessel or lazaretto, to remain in or return to, and to return to such persons or things to such vessel or lazaretto, and may by such necessary force as the case requires compel any person neglecting or refusing to observe such orders to obey the same.

The above regulations shall not in any way interfere with the internal management of any of her majesty's ships, or of foreign ships of war, or with their freedom to proceed to sea, whenever the officer in command may deem such course requisite.

Where any breach of any of the above regulations is committed, all the persons assisting in any way in the commission of such breach, and the master or other person having the control of any vessel or boat on board of which such breach has been committed, or which has been in any way engaged in the commission of such breach, shall be severally answerable for such breach, and shall be deemed guilty of the same.

All infectious or contagious diseases are quarantined.

The ship must in all cases bear her own expenses while in quarantine.

The ordinances regulating quarantines are enacted by the governor of the colony, with the advice of the legislative council thereof, and approved by her majesty, Queen Victoria.

R. E. WITHERS, JR.,
Vice Consul.

UNITED STATES CONSULATE,
Hong Kong, September 10, 1889.

CHINA.

REPORT BY CONSUL SEYMOUR, OF CANTON.

PILOTAGE.

Pilotage is not compulsory in China for vessels of this country or those of foreign countries.

No discrimination occurs as to pilot charges for vessels of this or other countries. Pilotage is paid if vessels take a pilot. For fuller particulars reference is respectfully made to the accompanying printed "General regulations, with local rules, for the Chinese pilotage service for the port of Canton," hereto appended.

LIGHT AND TONNAGE DUES.

Light dues and tonnage dues are here combined under one item of light and tonnage dues, which are collected from all classes of vessels, whether on the foreign or coasting trade, laden or in ballast, if of the foreign type of vessels.

There is no discrimination in regard to flag, except that native Chinese junks are not subject to the regulations for vessels of foreign type, and pay a special mast tax to native taxgatherers. The light and tonnage dues on vessels of a foreign type of less than 150 tons, amounting to 1 mace (equivalent to 12 cents United States currency) per ton, and on vessels of 150 tons and upwards, amounting to 4 mace (equivalent to 48 cents United States currency) per ton, is collected by the Imperial Maritime Customs of China at any port where the owners choose; and such payment exempts the vessel from similar dues for 4 months; and there is no discrimination as to nationality.

The native junks do not contribute to the light-house fund, but are subject to a small tax known as "mast dues," which are levied by the taxgatherers at junk stations; but no particulars are given to the public.

The light-house system of China is generally regarded by ship masters and seafaring men as highly creditable. The light-houses are under the direction of the Imperial Maritime Customs Department of China, which is under the management of Sir Robert Hart and an efficient corps of foreign officials, in the service of the Chinese Government.

The only official copy of the official exhibit of the system of Chinese light-houses supplied to this consulate was transmitted immediately after its publication to the Hydrographic Bureau of the United States Navy Department, in Washington, D. C.

QUARANTINE.

At Canton there are no rules as to quarantine.

CHARLES SEYMOUR,
Consul.

UNITED STATES CONSULATE,
Canton, September 16, 1889.

[Inclosure in Consul Seymour's report.]

CHINESE PILOTAGE SERVICE.

GENERAL REGULATIONS, WITH LOCAL RULES, FOR THE PORT OF CANTON.

GENERAL REGULATION I.—*By-laws and local rules.*

1. By-laws and rules necessary for the better ordering of pilotage matters at the ports are to be drawn up by the harbor masters in consultation with the consuls and chambers of commerce, with whom also it rests, in the same way, to fix the number of pilots, tariff of charges, and define the limits of the pilotage ground.

2. The number of pilots for the port of Canton shall not exceed 35.*

3. The pilotage ground for the port of Canton shall be defined as follows, viz: For the inner limit, a line drawn across the river immediately below Belcher Island; and for the outer limit, a line drawn from Macao Light east to the island of Lantau for vessels using the Lantau Passage or Great West Channel, and for vessels using the Cap Sing Moon Passage, a line east and west through Green Island or north from Victoria Peak to the mainland.

* The number of ordinary pilots was reduced to 25 on November 6, 1879, and again on December 20, 1879, to 15, the present number.

4. The pilotage charges shall be as follows:

Sailing vessels.

	Per ton.
Whampoa to or from—	
Hong-Kong	$0.05
Macao	.05
Sea	.05
Canton	.03

Steamers.

Whampoa to or from Hong-Kong, Macao, or sea:	
Drawing 6 to 9 feet	$12.50
Drawing 10 to 18 feet	25.00
Drawing 19 feet	30.00
Drawing 20 to 22 feet	40.00
Whampoa to Canton, any draft (in full)	10.00

GENERAL REGULATION II.—*Pilots: Individuals eligible.*

The subjects, citizens, or protégés of treaty powers shall, equally with natives of China, and without distinction of nationality, be eligible for appointment, when vacancies occur, by the board of appointment, subject to the general regulations now issued, and the by-laws to be under them enforced at the several ports respectively.

GENERAL REGULATION III.—*Board of appointment, how to be constructed.*

The board of appointment shall consist of the harbor master, as president, the (or a) senior pilot, and 2 persons whose names shall be drawn by lot by the harbor master from a list prepared and published by the harbor master in consultation with the consuls and chambers of commerce.

GENERAL REGULATION IV.—*Vacancies, how to be filled up.*

1. Whenever there may be a vacancy among the pilots, it shall be duly notified in the local prints; and 8 days afterwards the board of appointment shall proceed to fill it up by a competitive examination.
2. The board may refuse to admit to the examination anyone who, having once been a licensed pilot, has had his license withdrawn, and also any candidate who is unable to produce consular certificates as to character, etc.
3. The examination shall be public and gratuitous, and the vacancies shall be given to the most competent of the candidates, without distinction of nationality, provided always the competency of the first on the list be not relative but absolute.
4. The consul concerned may, in person or by deputy, be present and take part in the examination of candidates.
5. The majority of the votes of the members of the board shall decide the admission of candidates for pilot licenses, each member having one vote in the ballot; but in the absence of the consul concerned the harbor master shall have a casting vote.

GENERAL REGULATION V.—*Pilot's license, by whom to be issued.*

1. Pilots' licenses shall be issued by the commissioner of customs, in the name and on behalf of the Chinese Government. Licenses issued to pilots not being natives of China shall subsequently be viséed and registered at the consulate concerned.
2. On the first of July each year every pilot shall pay the sum of 5 Haikwan taels for the renewal of his license.
3. Every licensed pilot shall be given a printed copy of the general regulations and local rules, and shall produce the same, as well as his license, when required.

GENERAL REGULATION VI.—*Apprentice pilots, how to be taken.*

1. It shall be allowable for each licensed pilot to take an apprentice, for whom he shall be responsible. On the application of pilots, the harbor master will supply apprentices with special certificates.
2. When the circumstances of the pilot appear to demand it, the harbor master may authorize apprentices to act temporarily, and within certain limits, as pilots, provided they have received certificates of competency from the board of appointment.

GENERAL REGULATION VII.—*Licensed pilots, to whom subordinated; unlicensed pilotage, etc.*

1. Licensed pilots may carry on their business either singly or in companies. They must pay due respect to the wishes and instructions of the harbor master, under whose orders and control they are placed, and who is invested with power to suspend or dismiss, subject to an appeal to the consul concerned. When the pilot is a foreigner, the appeal to be lodged within 3 days.
2. If guilty of any misconduct for which consular punishment has been inflicted, or if proved to have committed any offense against revenue laws, the individual concerned may be suspended or dismissed by the harbor master, subject to an appeal to his consul. If a foreigner, the appeal to be lodged within 3 days.
3. Anyone piloting without a license, or making use of another's license, shall be subject to prosecution before his own authorities, who shall deal with the offender in accordance with the laws of his own country. Any pilot lending his license to another will be proceeded against and dealt with in the same way, in addition to forfeiting his license.
4. Any commanding officer employing an unlicensed person to pilot his vessel will be liable to be fined in the sum of 100 taels by the authorities to whose jurisdiction he is amenable.

GENERAL REGULATION VIII.—*Pilot boats: Regulations to be observed.*

1. Pilot boats shall be registered, with their crews, at the harbor master's office, where each boat will be given a certificate and number. The word "Licensed Pilot Boat" shall, with the number, be legibly painted at the stern and on the head of the mainsail, and a flag, of which the upper horizontal half shall be yellow and the lower green, shall be flown. Such registered pilot boats shall deposit their national papers with their consul or the customs; they shall be at liberty to move freely within the limits of the port and pilotage ground, and shall be exempt from tonnage dues. On the requisition of the harbor master or his deputies, it will be obligatory on registered pilot boats to convey from place to place within the limits employés belonging to either customs or harbor master's department, with such stores as may be wanted for either light-house or light-ships.
2. Every licensed pilot boat shall pay a fee of 20 taels for renewal of license on the first of July each year.
3. In case of a pilot going off in an unregistered boat he will be authorized to carry the pilot-boat flag during the time he is on board, but no pilot is authorized to cruise in an unregistered boat without special permission from the harbor master.
4. The owner or hirer of an unregistered boat making use of a pilot flag and not having a licensed pilot on board shall be prosecuted before the authorities to whom he is amenable or whose flag or national ensign he has the right to use.
5. A registered pilot boat is not permitted to fly the pilot flag save when there is either a licensed pilot or a certificated apprentice on board.

GENERAL REGULATION X.—*Harbor pilots; vessels in harbor; berthing, etc.*

1. The duties of the harbor pilots, where such exist, will be to take charge of vessels at the outer limits of the anchorage, berth them in accordance with the orders received from the harbor master's department, take charge of vessels shifting berths, going in or out of dock or to or from a wharf or out of the anchorage, and to assist in and report to the harbor master's office all matters concerning the shipping in port and the conservancy of the river or harbor.
2. In berthing vessels the harbor master will as far as possible meet the wishes of commanding officers and consignees, and the entrance, working, or clearance of vessels taking berths not assigned to them shall be stopped by the customs until the harbor master's orders are complied with.
3. Vessels are to moor in accordance with orders received from the harbor master, and are not to remove from the anchorage without his permission.

The above rules and regulations are provisional, and may be amended or added to according to circumstances.

LOCAL RULES.

1. The board of appointment for the port of Canton shall be composed as follows, viz: The harbor master, as president, a naval officer, or the captain of a merchant ship, the master of one of the steamers running regularly between Hong-Kong and this port, and the senior pilot.
2. The fee for a pilot's license at this port shall be 10 taels.

3. Every pilot, when receiving his license, shall execute a bond for 100 taels, conditioned for the due observance of the regulations and local rules.

4. No apprentice pilot shall be entitled to an examination as to his qualifications to act as pilot until he has served an apprenticeship of at least 3 months.

5. Any pilot wishing leave of absence shall make application in writing to the harbor master. Absence from duty for a period of more than 3 days without sufficient cause shall render the pilot liable to suspension.

6. No pilot shall quit the vessel of which he is in charge, without the master's written consent, before the service for which he was employed has been performed.

7. Every pilot will be provided by the harbor master with a book, in which the master of any vessel piloted shall state whether the pilot concerned has conducted such vessel in safety, and otherwise performed his duty in a satisfactory manner.

8. Upon arrival of any pilot in charge of a vessel, he should report to the harbor master as soon as possible after the vessel has anchored, stating when and where he took charge of her, and giving full particulars of the passage up the river; and any pilot having taken a vessel out of port shall make or cause to be made, as early as possible, a report to the harbor master, giving full particulars of the passage down the river, stating when and where he left the vessel, and giving the latest information in regard to her he may be in possession of.

9. Any pilot carried off the pilotage ground, the fault not being his own, shall be entitled to compensation at the rate of $1 per day.

10. Should any vessel get aground, the pilot in charge must report to the harbor master without delay, specifying bearings of known objects, vessel's draft of water, time of tide, nature of bottom, etc.

11. The pilots must give immediate notice to the harbor master of any obstructions in the channels, and of any accident known to have happened to buoys, beacons, lights, etc.

12. Any pilot demanding or receiving more or less than the established rates for pilotage for this port shall be liable to suspension.

13. Any person having a complaint to make against a pilot must communicate it in writing to the harbor master.

14. The rules and regulations of any company or companies formed by the pilots must be submitted to the harbor master for his approval.

The above rules and regulations have been drawn up by the harbor master in consultation with the consuls for the treaty powers at this port, and approved by them, and may be amended or added to in the same way.

AMOY.

REPORT BY CONSUL CROWELL.

PILOTAGE.

Pilotage is not compulsory here. Pilot charges are the same for vessels of the country as for foreign vessels. The charges are as follows:

Outside ground.—Sailing vessels: Full-rigged ships, $8; barks and three-masted schooners, $6; brigs and schooners, $4. Steamers: Under steam, $4; not under steam, $8.

Inside ground.—Sailing vessels: Under 200 tons register, $5; over 200 tons register, 2½ cents per registered ton. Steamers: Under 400 tons register, $5; over 400 tons register, 1¼ cents per registered ton. Steamers not under steam to pay the same as sailing vessels of similar registered tonnage.

No foreign flags enjoys special privileges in this regard.

Vessels in distress and foreign war vessels when they engage pilot pay pilotage.

LIGHT AND LIGHT DUES.

There are no light dues whatever, only tonnage dues.

General character of the lights, altitude, distance visible: One on Chapel Island, which is 227 feet above high water, and could be seen within 22 miles off in clear weather; one on Tsingsen Island, 130 feet

above high water, and visible within 15 miles off in clear weather; one on Taitan Island, 300 feet above high-water, and visible within 10 miles off in clear weather, and one on Dodd Island, 147 feet above high water, and visible within 18 miles off in clear weather.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels, whether in the foreign or coasting trade, laden or in ballast, viz, 4 mace per ton of 40 cubic feet if the vessel be over 150 tons burden, and 1 mace per ton of 40 cubic feet if she be of the burden of 150 tons or under, according to the tonnage specified in the register. Payable every 4 months.

There is no discrimination in regard to flag, nor do vessels of any nationality enjoy special privileges.

QUARANTINE.

The rules as to quarantine are: To impose on such vessels as have come from a port which has been declared infected a quarantine for a certain length of time and prevent the same from entering during that period.

List of diseases quarantined: Cholera, smallpox, etc. The duration of quarantine for each and from each port is generally between 8 and 10 days, but is controlled by the health officer.

The shipowners bear the expenses of detention and fumigation as to pasengers and cargo.

Quarantine rules are drawn up by the commissioner of customs and taotai, with the assent of the consuls of treaty powers. The General Government have very little to do in this respect.

WM. S. CROWELL,
Consul.

UNITED STATES CONSULATE,
Amoy, October 7, 1889.

QUARANTINE CUSTOMS NOTIFICATION.

[Inclosure in Consul Crowell's report.]

Whereas by a proclamation dated the 3d instant the taotai and superintendent of customs of this port have, with the consent of the consuls, declared the port of Manila cholera-infected; and

Whereas the undersigned has been desired by the taotai and superintendent to take the measures necessary to give effect to the said proclamation, the following regulations, which have been drawn up and are issued with the approval of the treaty power consuls at Amoy, will be enforced from date on all vessels coming from Manila:

1. All vessels coming from Manila, now declared to be cholera-infected, must anchor outside the lower limits of the outer harbor. The customs officer or pilot on going alongside a vessel so anchored will, on ascertaining that she is from Manila, hand the master a copy of these regulations and require him to hoist a yellow flag at the fore, if he has not already done so. The vessel must thereafter on no account change her berth without a special permit from the harbor master authorizing her to do so.

2. On receiving the officer's report that a vessel is so anchored, with the yellow flag at the fore, the commissioner of customs will send the health officer on board, and until the report of the latter has been received and admission to pratique granted no other person not specially authorized will be allowed to go on board or leave the vessel, nor will any cargo, luggage, or other article be permitted to be removed from her.

3. If there has been no case of infectious disease during the voyage the vessel may be admitted to pratique after the lapse of 10 days since the date of her departure from Manila, and the vessel meanwhile may remain at the anchorage outside the lower limits.

4. If there has been during the voyage, or if there is at the time of her arrival, any case of infectious disease on board, or should a case occur during the period of her detention in quarantine, the vessel will, if considered necessary, be required to remove to a special anchorage at a suitable distance from the port and be kept there for a period of 10 days from the time she shall have been declared free of infectious disease by the health officer, and will not be permitted to pratique till after the ship, cargo, and passengers shall have been thoroughly disinfected to the satisfaction of the health officer.

5. Any person who commits a breach of these regulations will be dealt with by the authority to whose jurisdiction he is amenable.

The foregoing rules, which are declared to be regulations of the port, are provisional, and will only be in force for 2 months from date.

J. McLEAVY BROWN,
Commissioner of Customs.

CUSTOM HOUSE,
Amoy, September 7, 1882.

Indorsed by me this 7th day of September, 1882.

W. ELWELL GOLDSBOROUGH,
Consul of the United States of America.

Approved by me this 7th day of September, 1882.

N. C. STEVENS,
Vice-Consul for Sweden and Norway.

Approved by me this 7th day of September, 1882.

AUG. PIEHL,
Acting Consul for the Netherlands.

Approved.

RANDALL H. PYE,
Consul for Denmark.

Approved.

ANTOLIN PITA,
Acting Consul-General for Spain, Acting Vice-Consul for France.

Approved.

R. J. FORREST,
Consul for Great Britain and Austria.

Approved, Amoy, the 8th of September, 1882.

BUDLER,
Acting Imperial German Consul.

NEWCHWANG.

REPORT BY VICE-CONSUL BANDINEL.

PILOTAGE.

Pilot charges are: Inward 3 taels per foot for steamers, 4 taels per foot for sailing vessels not in tow, 2 taels per foot for sailing vessels in tow. Outward charges are the same as inward.

LIGHT DUES.

Light dues as distinct from tonnage dues do not exist. The tariff rule No. 10 states that—

The maintenance of lights, buoys, beacons, and the like shall be provided for out of the tonnage dues.

Article XVI of the United States treaty of Tientsin stipulates that—

The collectors of customs at the open ports shall consult with the consuls about the erection of beacons or light-houses and where buoys and light-ships should be placed.

The approach to the river Liao, on which this port is situated, is indicated by the light-ship called *Newchwang*, located in 5 fathoms water, about 3½ miles WSW. from the bar, in latitude 40° 34′ N. and longitude 122° E. She shows a fixed C light, visible in clear weather for a distance of 11 miles, with an altitude of 40 feet above high water. This light-ship is only in position from the 1st of April, approximately, to the 20th of November, on account of ice.

TONNAGE DUES.

Tonnage dues are collected from all classes of merchant vessels, whether on the foreign or coasting trade, laden or in ballast. There is no discrimination in regard to flag, nor do vessels of any nationality enjoy special privileges. A merchant vessel leaving port within 48 hours after arrival from a foreign port, in ballast or without breaking bulk, is not liable to pay tonnage dues. A vessel when clearing, after payment of her tonnage dues, receives from the customs a certificate which frees her from the payment of tonnage dues in any Chinese port for the term of 4 calendar months.

The rate charged is 4 mace (0.40 tael) per ton of 40 cubic feet, if the vessel be over 150 tons burden, and 1 mace (0.10 tael) per ton of 40 cubic feet if she be of the burden of 150 tons or under. This is payable on the registered net tonnage by the shipmaster direct to the custom-house.

QUARANTINE.

The only rule at present bearing on this subject is No. 6, of the Newchwang Harbor Regulations, which reads:

> Vessels having infectious disease on board must anchor 1 mile below the lower limit and fly from sunrise to sunset the quarantine flag at the main royal masthead. No person will be permitted to leave the vessel without permit from the harbor master in consultation with the health officer.

If, however, an emergency should arise, rules would doubtless be framed to meet it by the customs authorities in conjunction with the consuls of the treaty powers, and would be submitted for approval to the high authorities at Peking.

J. J. FRED'K BANDINEL,
Vice-Consul.

UNITED STATES CONSULATE,
Newchwang, February 13, 1890.

NINGPO.

REPORT BY CONSUL PETTUS.

LIGHTS.

There are only two lights in this consular district, viz, Tiger Island and Square Island lights. The former is a sixth-order dioptric light; altitude 125 feet; distance visible, 10 miles in clear weather. The other is a fifth-order dioptric light; altitude 150 feet; distance visible, 12 miles in clear weather. They belong to the customs department at this port and are under the superintendence of the harbor master. The light-keepers are Chinese.

QUARANTINE.

The vessel under quarantine is to anchor 2 miles below the anchorage.

Disease quarantined, cholera.

The duration of quarantine is until the health officer declares that danger is over.

The expenses of detention and fumigation, as to passengers and cargo, are borne by the vessel under quarantine.

There are no quarantine rules beyond those quoted above, and no publications on the various subjects above enumerated are obtainable at this port.

THOS. F. PETTUS,
Consul.

UNITED STATES CONSULATE,
Ningpo, September 10, 1889.

FOOCHOW.

REPORT BY CONSUL CAMPBELL.

It is difficult to give a correct report of the laws and regulations governing pilotage, tonnage, and light dues prevailing in the ports of China. They are not uniform in all the ports and are varied in many cases as circumstances require, but there is apparently little cause of complaint on the part of shipmasters and others interested in maritime affairs. In ascertaining what rules and regulations govern in these matters recourse must be had to existing treaties between China and other countries. China, it must be understood, in her treaties with the principal civilized countries of the world has given them a voice in the maritime and commercial matters in all her principal ports. The tariff on imports and exports, tonnage, and other dues is fixed by treaty regulations and can not be changed without the sanction of those countries.

PILOTAGE.

Pilotage at the port of Foochow is not compulsory for vessels of the country nor for vessels of foreign countries. The charges for pilot service is the same for vessels of all countries, no distinction being made between native and foreign ships, and no special privileges in this regard are accorded to any foreign flag.

Vessels in distress pay pilotage fees if they engage a pilot, but as pilotage is not compulsory, no fees of the kind are required unless the vessel on its own motion engages a pilot, in which case his fees would have to be paid. The same rule applies to foreign war ships. They are only required to pay the fees when they engage the services of a pilot.

TONNAGE AND LIGHT DUES.

All dues collected at this port are termed tonnage dues, but a certain per cent. of these are given to the support of the light-houses, and when thus separated are termed light dues and are expended under the supervision of the coast inspector. Tonnage dues in theory are payable only at one port on the same voyage. After paying at one port a certificate is given the vessel which exempts her for 4 months from pay-

ment of dues, and this time may be extended for good cause shown. Tonnage dues are payable without regard to lights and no distinction is made between ships of any country; all are treated alike.

Vessels in distress which put into port do not pay tonnage dues unless they discharge or take in cargo, in which event dues are collected. War vessels are not required to pay tonnage dues.

The rate charged American vessels for tonnage is 4 mace per ton of 40 cubic feet if the vessel is over 150 tons burden and 1 mace per ton of 40 cubic feet if she be of the burden of 150 tons or under, according to the tonnage specified in the register. This is collected through the customs authorities. The consul is responsible for the dues and it is his duty not to surrender the ship's papers until they are paid. There is no discrimination against vessels of the United States. All ships, native and foreign, are on an equal footing and tonnage dues are collected from all vessels. There is no discrimination in regard to the flag and no nationality enjoys special privileges of any kind whatever.

LIGHT-HOUSES.

The lights at Ockseu, at the summit of High Island, are in latitude 24° 59′ 36″.3 N., longitude 119° 27′ 7″ E., and are revolving lights. They revolve at intervals of 1 minute between the flashes, and can be seen 24 miles in clear weather; the light tower is round, black; the character and order of the illuminating apparatus is dioptric, first order. At this place the light-keepers' dwellings and boundary walls are painted white. The keepers, on hearing a bell, fog-horn, steam whistle, or any other sound during foggy or thick weather, which shall indicate the proximity of a vessel, will fire three guns with an interval of 2 minutes between the first and second and second and third, and if the vessel's fog-signal is still heard, will repeat the firing after the space of 12 minutes.

The light-house on the well-known island of Turnabout is located upon the summit of the island, and is in latitude 25° 26′ 10″.4 N., longitude 119° 56′ 6″.8 E. It is a fixed light, and can be seen in clear weather 23 miles. The light-tower is round and black, and the character of the illuminating apparatus is dioptric, of the first order, and is visible all round. The light-keepers' dwellings and boundary wall are painted white. On hearing a bell, fog-horn, steam whistle, or any other sound during foggy or thick weather which shall indicate the proximity of a vessel, the keepers of this light-house will fire two guns with an interval 3 minutes between them, and if the vessel's fog-signal is still heard, will repeat the firing after the space of 10 minutes.

The Middle Dog Light-House is located on the northeastern extremity of Middle Dog Island, in latitude 25° 58′ 10″ .3 N., longitude 119° 59′ 2″ .1 E. The light is fixed and flashing, with one-half minute between the flashes, and can be seen in clear weather 23 miles. The light-tower is round, white. The illuminating character of the apparatus is dioptric of the first order and visible from S. 70° E. round by S. and W. to N. 40½° E. From S. 70° E. round by E. to N. 40½° E. the light is obscured by the Tongsha and Middle Dog Islands, except from S. 89° E. to N. 81¾° E. and from N. 61½° E. to N. 57° E., where the light is also visible. The light-keeper's dwelling and boundary walls are painted white. The keeper at this light-house on hearing a bell, fog-horn, steam whistle, or any other sound during foggy or thick weather, which shall indicate the proximity of a vessel, will fire three guns, with an interval of 2 minutes between the first and second and

second and third, and if the vessel's fog-signal is still heard, will repeat the firing after the space of 15 minutes.

The light called the "Pagoda Rock" is upon the summit of the rock of that name, at the Pagoda Anchorage, which is well in the harbor. The light is a fixed one, and can be seen 1 mile. It is upon an iron pile, surmounted by a cage painted red. The light is 16 feet above high water, is red, and visible all round, but the illuminating apparatus is unclassed.

The Oriental Rock Beacon is located on the Oriental Rock, Kimpai Pass. It is spar-mounted, with a cage 4 feet square on the upper and 2 feet 6 inches on the lower part, painted red, with the words "Oriental Rock" in white on the cage, and shows 14 feet above high-water spring tides.

The Half Tide Rock Beacon is located on the Half Tide Rock near the upper end of Tongue Shoal, is built of granite, and painted black. The rock is submerged 5 feet at high-water springs.

The Pagoda Rock Beacon is situated on the rock in the Pagoda Anchorage. It is an iron pile, surmounted with a cage painted red. A red light is exhibited from sunset to sunrise. The rock is submerged 10 feet at high-water springs.

The Mamoi Rock Beacon is located on the Mamoi Rock. It is a painted pole with a cage painted red. The rock is only covered at high water.

QUARANTINE.

There are no laws or rules upon the subject of quarantine here. When an occasion arises requiring measures of that character to be taken, the consuls representing foreign countries at the port, with the consent of the Chinese authorities, establish a quarantine against an infected port and formulate rules to govern the same. The rules and quarantine thus established continue so long as there is a seeming necessity, and when the danger is over they are declared suspended by the same authority. All quarantine regulations are in the hands of the foreign consuls at the port, but there are no established rules in force.

JOHN TYLER CAMPBELL,
Consul.

FOOCHOW, *September* 14, 1889.

LOCAL RULES FOR THE PORT OF FOOCHOW.

[Inclosure in Consul Campbell's report.]

BY-LAWS AND LOCAL RULES.

1. By-laws and rules necessary for the better ordering of pilotage matters at the ports are to be drawn up by the harbor masters in consultation with the consuls and chambers of commerce, with whom also rests, in the same way, to fix the number of pilots and tariff of charges, and define the limits of the pilotage ground.

2. The number of pilots for the port of Foochow shall be for the present 10 outside and 15 inside.

3. The pilotage ground for the port of Foochow shall be divided in two sections, viz, outside and inside. The outside ground shall be defined as extending from the line White Dogs and Matsou and Quing Islands in as far as the Sharp Peak Anchorage; and the inside ground as extending from the Sharp Peak Anchorage to the upper limits of the Pagoda Anchorage.

4. The pilotage charges at the port of Foochow shall be as follows, viz:

Between the limits of the outside pilotage ground, for all vessels	per foot	$4.00
Steamers from Pagoda Anchorage to sea and *vice versa*. If drawing—		
18 feet and under	per foot	5.00
More than 18 feet	do	6.00
Between Sharp Peak and Pagoda Anchorage:		
For all vessels	per foot	2.00
Sampans, if employed between the Pagoda and Sharp Peak for towing, each		.50
Coolies, if employed between the Pagoda and Sharp Peak for working ship	each	1.00
Between Pagoda Anchorage and Foochow Bridge, for all vessels	per foot	1.50
For vessels in tow of steamers:*		
Inside pilotage	per foot	1.00
Outside pilotage	do	2.00

Local rule 1.

Pilots shall not demand more nor accept less money for piloting vessels than the amount authorized by the tariff.

Local rule 2.

Any pilot bringing in a vessel from sea shall, by himself or one of his boat's company, be entitled to pilot her to sea when she next leaves the port, unless in the mean time a complaint for misconduct or incapacity shall have been made against such pilot and proved before the harbor master. Any pilot who shall take such vessel to sea without the consent of the pilot who brought her in (such last-mentioned pilot or one of his boat's company being ready and offering to take her to sea) shall pay to the harbor master, for the benefit of the pilot entitled to perform the service, a sum equal to the legal outward pilotage. But if any commanding officer of a vessel arriving at this port shall object to have his vessel taken to sea by the pilot who brought her in, he shall state his objection in writing to the harbor master, who, if he see fit, may appoint another pilot to take such vessel to sea.

Local rule 3.

Outward-bound vessels shall not be left until well clear of all dangers within the limits of the pilotage ground. Inward-bound vessels shall not be left until moored in a safe berth or taken charge of by a harbor pilot. No pilot shall quit the vessel of which he is in charge, without the master's written consent, until the service for which he was employed has been performed.

Local rule 4.

Pilotage fees at this port due to Chinese pilots, both inward and outward, shall be paid into the harbor master's office, from which will be issued a written receipt. The sums thus received for outward pilotage will in each case be retained by the harbor master until he has seen by the entry in the pilots' book provided for that purpose that the vessel was conducted to the limits of the pilotage ground without accident, and that the pilot in every respect properly discharged his duty.

Local rule 5.

Any outside pilot carried off his ground, the fault not being his own, shall be entitled to compensation at the rate of $5 a day and a return passage. Such pilot must return to the port by the first opportunity, or if detained away by sickness must at once forward a medical certificate according to local rule 13.

*The said steamers to be of sufficient power to tow them to sea against the tides and ordinary winds.

FRENCH INDIA.

COCHIN CHINA.

SAIGON.

REPORT BY VICE COMMERCIAL AGENT SCHNEEGANS, OF SAIGON.

PILOTAGE.

Pilotage is compulsory is all cases, for French as well as foreign vessels. Pilot charges are the same for French as foreign vessels: An exception is, however, made in the case of the steamer, subsidized by the State and intrusted with the postal service, there being a special and reduced tariff established for such steamers.

No foreign flag enjoys special privileges in this regard. Vessels in distress as well as foreign war vessels pay pilotage.

LIGHT AND HARBOR DUES.

Vessels, whether steam or sail, arriving and leaving fully laden, pay 30 cents of a Mexican dollar (equal to about 22.5 cents American) per net registered ton; vessels arriving in ballast and leaving laden, or *vice versa*, pay 15 cents of a Mexican dollar (equal to about 11.25 cents American) per net registered ton; vessels arriving and leaving in ballast are exempt, as are also vessels chartered for account of the state, to the extent of the tonnage put aside for the benefit of the colonial government, and vessels containing goods inferior in quantity to one-twentieth of their net registered tonnage and in value to one Mexican dollar (equal to about 75 cents American) per net registered ton.

Vessels running regularly to and from Europe, America, Australia, and New Caledonia to Saïgon or to a port beyond, but putting in at Saïgon, are exempt from light and harbor dues.

Vessels running irregularly from Europe, America, Australia, and New Caledonia are exempt on arrival, and if they leave for a port situated in a quarter other than those above mentioned they have to pay dues, on leaving, to the extent of the tonnage taken in.

Any vessel coming from a port not mentioned in the decree in force, with a view to load for Europe, America, Australia, and New Caledonia, will pay dues on arrival, but not on leaving.

Saïgon being the only port in Cochin China, light and harbor dues are not payable more than once.

Light dues are always payable, because there is always a light.

The lights have an altitude of about 140 metres and are visible at a distance of 30 miles.

The light and harbor dues are collected by the treasury. There is no discrimination in favor of or against vessels of the United States. The same rate is charged American as well as other vessels.

The colony does not charge vessels subsidized by the state and intrusted with the postal service any light and harbor dues at all, whereas other vessels engaged in the foreign and coasting trade are subject to these dues. They are the same as those charged the vessels of the United States.

The steamship companies subsidized by the state and running steamers regularly to our port are the following: Les Messageries Maritimes, Messageries Fluviales de Cochinchine, Cie. Nantaise de Navigation à Vapeur.

Tonnage dues: None.

QUARANTINE.

The quarantine is to be applied in case of epidemic or contagious diseases, such as cholera, smallpox, typhus, etc. The duration of the quarantine varies from 10 to 25 days, according to the decision taken by the sanitary authorities, but it always dates from the day the vessel has left the contaminated port from which she comes.

The vessel bears the expenses of detention and fumigation as to cargo only, the passengers themselves paying their own expenses.

The quarantine rules are established by a board of health appointed by the local government, and the former is under the immediate control of the latter.

E. SCHNEEGANS,
Vice Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Saïgon, December 28, 1889.

JAPAN.

REPORT BY CONSUL-GENERAL GREATHOUSE, OF KANAGAWA.

PILOTAGE.

Pilotage is not compulsory in Japan, so far as the Government regulations are concerned, for any class of vessels, foreign or domestic. Pilot charges are the same for foreign vessels as for Japanese, and no foreign flag enjoys special privileges. Vessels in distress and foreign war vessels pay pilotage when pilots are employed just as other vessels do, but not unless the pilot's services are actually rendered.

Pilots are licensed or authorized to act by the Government, but there is no restriction as to their nationality, and there are several Americans acting as pilots in the port of Yokohama, and also from this port to Kobe and Nagasaki.

The ordinary pilotage rates into and out of Yokohama port are $3 (Mexican) per draft foot, and for the inland sea $6 (Mexican) per draft foot for all classes of vessels, but private arrangement can be made, and I am informed that some of the steamship companies have pilots regularly employed on monthly salaries, as agreed upon specially between the parties.

LIGHT DUES.

No light dues are levied on Japanese or foreign vessels.

I give below full description of all the light-houses, light-ships, buoys, and beacons in Japan, corrected to January 1, 1889, from which it will be seen that there were on the coast of Japan at said date 63 lights, of which number 13 were of the first order, 8 of the second order, 5 of the third order, 9 of the fourth order, 9 of the fifth order, 6 of the sixth order, 8 staff lights, and 5 fixed lights. Their visibility ranges from 6 to 24 nautical miles, and their heights above high water range from 29 feet to 397 feet.

LIGHTS OF JAPAN.

	Name of light.	Situation of light.	Latitude north.	Longitude east.	Date of first exhibition.	Description of building.
			° ′ ″	° ′ ″		
1	Shinagawa	Western side of Fort No. 2 in Tokio anchorage.	35 37 35	139 45 44	Apr. 5, 1870	Circular brick tower, painted white.
2	Haneda	About 1¼ miles off the mouth of Rokugogawa, Bay of Tokio.	35 31 56	139 47 36	Mar. 15, 1875	Hexagonal iron tower, painted with black and white horizontal stripes.
3	Yokohama Hatoba	On the point of the eastern arm of the Nishi Hatoba (English Hatoba).	35 26 52	139 38 41	Feb. 24. 1869	Staff, painted white.
4	Honmoku light-ship.	Southeast of Yokohama anchorage, outside the shoal off Honmoku (Treaty Point), moored in 10 fathoms water at low-water springs.	35 26 31	139 41 8	Dec. 21, 1869	Wooden hull, painted red, 2 masts, with red ball on foremast head.
5	Kanonzaki	In the Province of Sagami, at the entrance to the Gulf of Tokio.	35 15 18	139 44 45	Feb 11, 1869	Square brick tower, painted white.
6	Tsurugi-saki	In the Province of Sagami, at the entrance to the Gulf of Tokio.	35 8 27	139 40 41	Mar. 1, 1871	Circular stone tower, painted white.
7	Jōgashima	On the west end of Jōgashima (Jōkashima on chart), near Misaki, Province of Sagami.	35 8 8	139 36 40	Sept. 8, 1870	Circular brick tower, painted white.
8	Noshima-saki	On the southern extreme of the Province of Awa.	34 53 20	139 53 57	Jan. 22, 1870	Octagonal brick tower, painted white.
9	Mikomoto-shima	Rock Island, south of Shimoda Harbor, Province of Idzu.	34 34 25	138 56 30	Jan. 1, 1871	Circular stone tower, painted white, with 2 black horizontal bands round the middle part of the tower.
10	Irō-saki	Southernmost point of the Province of Idzu.	34 36 2	138 50 45	Oct. 5, 1871	Octagonal wooden tower, painted white.
11	Omaisaki	Southernmost point of the Province of Tōtōmi, to the west of Suruga Gulf.	34 35 52	138 13 49	May 1, 1874	Circular brick tower, painted white.
12	*Oyama*	At the foot of Oyama, on the coast of the Province of Mikawa.	34 35 36	137 8 39	Aug. 20, 1888	Hexagonal wooden tower, painted white.

LIGHTS OF JAPAN.

	Appearance and order of light.	True bearings within which light is visible.	Height of light-house to center of lantern.	Height of light above the sea.	Range of visibility.	Remarks.
			Feet.	*Feet.*	*Miles.*	
1	Fixed, red, 5th order.	S. 68° E. to N. 18° E....	19	52	10	Channel for boats lies to the westward of the light.
2	Fixed, green, 4th order.	N. 30° W. to S. 60° W.	53	49	11½	The light-house is built on spit running out from the mouth of the Rokugogawa, in 7 feet of water at low tide
3	Fixed, red, staff light.	The whole horison....	43½	48	6	
4	Fixed, red	....do	.....	36	10	Honmoku (Treaty Point) bears S. 33° W.; Jiuniten Yama (Mandarin Bluff) S. 53° W; mouth of creek W. During foggy or thick weather, a bell rung 5 times in quick succession at intervals not exceeding 5 minutes. Should be passed to the eastward.
5	Fixed, white, 3d order.	N. 27° W. to S. 31° W.	40	178	17	Red ray between the bearings S. 2° E. and S. 13° W., covering Askika-shima (Plymouth Rocks). exhibited from the main lantern. Also red ray between the bearings N. 8° 30′ W. and N. 18° 30′ E., covering Futsu Spit (Saratoga Spit) and buoy, exhibited from a window of the light-house 32. feet below, and slightly to the westward of the vertical plane of the main light. Futsu Spit Buoy bears N. 6½° W. from the light, distant 3¼ miles.
6	Flashing every 10 seconds, white, 2d order.	N. 27° E. to S. 75° W..	25	100	16½	Red ray between the bearings N. 27° E. and N. 43° E., covering Ashika-shima (Plymouth Rocks).
7	Fixed, green, 5th order.	S. 55° E. to N. 74° E...	19½	106	10	
8	Fixed, white, 1st order.	N. 70° E. to N. 85° W..	99	133	17½	Mera Ledge bears S. 88° 30′ W., distant 4 miles.
9	....do	The whole horizon....	60	104	19½	Red ray between N. 6° E. and N. 49° W., covering dangers between Mikomotoshima and the shore. The entrance to Shimoda Harbor bears from the light N. 6° E., distant 5 miles.
10	Fixed, red, 5th order..	N. 78° E. to N. 72° W..	20	185	10	
11	Revolving every half minute, white, 1st order.	N. 41° 30′ E. to N. 76° 11′ W.	57	173	19½	Outside edge of Gozen Iwa (Lady Inglis Rock) bears from the light-house S. 36° 30′ E., distant 2 miles.
12	Fixed, red, 6th order..	N. 73° 45′ E. to S. 71° 45′ W.	17½	81½	8	

LIGHTS OF JAPAN—Continued.

	Name of light.	Situation of light.	Latitude north.	Longitude east.	Date of first exhibition.	Description of building.
			° ′ ″	° ′ ″		
13	Yokkaich.....	Inside the breakwater of Yokkaichi, Province of Ise.	34 57 25	136 39 44	Aug. 1, 1886	Square wooden tower, painted white.
14	*Nie saki*	On the outer end of the eastern pier, the town of Tsu, Province of Ise.	34 42 45	136 32 14	July 1, 1885	Staff, painted white.
15	Sugashima.....	Northeastern extreme of Sugashima, at the entrance to Toba Harbor, in the Province of Shima.	34 30 4	136 54 34	July 1, 1873	Circular brick tower, painted white.
16	Anorisaki	Eastern extreme of Anori saki, Southern Head, at the entrance to Matoya Harbor, in the Province of Shima.	34 21 55	136 54 34	Apr. 1, 1873	Octagonal wooden tower, painted white.
17	Kashino-saki	East point of Island Oshima, in the Province of Kii.	33 28 15	135 51 59	July 8, 1870	Circular stone tower, painted white.
18	Shiwo-misaki.....	Southernmost point of the Province of Kii.	33 26 20	135 45 21	Sep. 15, 1873	....do .....
19	*Riudsu-saki*	Southern head of the entrance to Urado Harbor, Province of Tosa, south coast of Shikoku.	33 30 37	133 37 1	June 3, 1883	Hexagonal wooden tower, painted white.
20	Tomaga-shima....	On the western extreme of Tomagashima in Yura Straits (Isumi Straits).	34 16 50	135 0 40	Aug. 1, 1872	Circular granite tower.
21	*Sakai*.....	On the outer end of the Middle Pier and marking the entrance to Sakai Harbor.	34 35 12	135 27 44	Sept. 15, 1877	Hexagonal wooden tower, painted white.
22	*Kidsugawa*.....	On the eastern bank of the mouth of the Kidsugawa.	34 37 48	135 27 44	May 1, 1878	Circular brick tower, painted with black and white horizontal bands.
23	Temposan	On Temposan Fort, at the mouth of the Ajikawa, Osaka.	34 39 45	135 26 00	Oct. 1, 1874	Square wooden tower, painted white.
24	Kobe	On the Eastern Hatoba of the Foreign Concession.	34 41 18	135 11 27	Aug. 15, 1877	Staff, painted white
25	Wadano-misaki...	On Wadano-misaki, southwest of Kobe anchorage.	34 39 20	135 10 49	Oct. 1, 1872	Hexagonal iron tower, painted white.
26	Yesaki.....	North Point of Island of Awaji, in Akashi Straits, the eastern entrance to the Inland Sea.	34 36 31	134 59 30	June 14, 1871	Circular granite tower.
27	Nabeshima	On the summit of Nabeshima, a small island close to the southern extreme of Yoshima, in the Inland Sea.	34 23 5	133 49 10	Dec. 15, 1872	....do .....

LIGHTS OF JAPAN—Continued.

	Appearance and order of light.	True bearings within which light is visible.	Height of light-house to center of lantern.	Height of light above the sea.	Range of visibility.	Remarks.
			Feet.	*Feet.*	*Miles.*	
13	Fixed, white, 6th order.	N. 32° 15′ E. to S. 3° 15′ W.	30	42	8	
14	Fixed, white, staff light.	The whole horizon....	19½	42	6	
15	Fixed, white, 4th order.	N. 24° W. to S. 8° W ..	28½	176	15	
16	Revolving every half minute, white, 4th order	N. 87° W. to S. 33° W .	36	102	16	
17	Revolving every half minute, white, 2d order.	N. 71° W. to S. 33° W .	15	130	17½	The sunken rock called Kaminose, with 2¾ fathoms water on it, bears from the light N. 45° E., distant 2 miles.
18	Fixed, white, 1st order.	S. 88° E. to N. 50° W .	63	163	20	Rebuilt of stone, 1878. Light first exhibited from stone tower April 15, 1878.
19	Fixed, white, 5th order.	N. 40° W. to S. 27. W ..	31	102	10	Light obscured by the land between the bearings S. 20° W. and S. 25° W.
20	Fixed, white, 3d order.	S. 10° E. to N. 52° E...	21	208	17	
21	Fixed, green, 5th order.	S. 14° 30′ W. to S. 75° 30′ E.	32½	53½	10	
22	Fixed, red, 6th order..	S. 22° 20′ E. to N. 67° 40′ E.	29	40	8	
33	Fixed, white, 4th order.	S. 57° E. to N. 63° E.	30	53	12½	
24	Fixed, green, staff light.	The whole horizon ...	34	42	6	
25	Fixed, red, 4th order ..	N. 27° W. to S. 68° W..	46	52	12	Hiraiso Beacon bears S. 78½° W., distant 8½ miles. Rebuilt of iron, 1884. Light first exhibited from the new tower March 1, 1884.
26	Fixed, white, 1st order.	S. 61° 20′ W. to N. 83° E	15	158	18½	Shikanose Buoy bears from the light S. 79° W., distant 9½ miles. Hiraiso Beacon bears from the light N. 76° 30′ E. distant 3 miles 8 cables.
27	Fixed, white, 4th order.	N. 11° E. to N. 89° W..	21	85	15	

LIGHTS OF JAPAN—Continued.

	Name of light.	Situation of light.	Latitude (north).	Longitude (east).	Date of first exhibition.	Description of building.
			° ′ ″	° ′ ″		
28	Mitsugahama.....	Outer end of the northern pier of the Harbor of Mitsugahama, Province of Iyo.	33 52 3	132 42 9	June 15,1886	Square wooden tower, painted white.
29	Tsuri-shima	400 yards inshore from the northwestern point of Tsuri-shima in the Inland Sea at the point marked "White Patch" on chart.	33 53 35.6	132 37 59	June 15,1876	Circular granite tower.
30	Hesaki.....	On the northeastern extreme of the Point of Hesaki (Isaki on chart) at the eastern entrance to Shimonoseki Straits.	33 57 43	131 1 22	Mar. 1, 1872	....do .....
31	Mutsure-shima ...	On the eastern extremity of Island of Mutsure (Rockuren on chart) at western entrance to Shimonoseki Straits.	33 58 53	130 52 7	Jan. 1, 1872	....do .....
32	Shirasu.....	On the southern end of Shirasu, a low reef about 1½ miles to the southwest of Aino-shima at the western entrance to Shimonoseki Straits.	33 59 11	130 47 36	Sept. 1, 1873	Square wooden tower painted with black and white horizontal stripes.
33	*Hakata*	Situated at a distance of about 5[illegible]6½ feet to northeastward of the old light-house on the mouth of Nacagawa, in the town of Hakata, Province of Chikuzen.	33 36 27	130 24 00	Dec. 1, 1883	Hexagonal wooden tower, painted white.
34	Yeboshi-shima....	On the summit of Yeboshi-shima, a small island at the northern entrance to the channel between the Island of Iki and the Province of Hizen, Kinshiu.	33 41 30	129 58 50	Aug. 1, 1875	Octagonal iron tower, painted white.
35	*Takashima*.....	On the northern end of Takashima, at the entrance to the Harbor of Yobuco, Province of Hizen.	33 33 38	129 54 3	Dec. 1, 1881	Square wooden tower, painted white.
36	Ose-saki (Cape Goto).	On the southwestern extreme of Fukueshima, the southernmost island of the Goto group.	32 36 45	128 36 5	Dec. 15, 1879	Circular iron tower, painted white.
37	Iwoshima.....	On the northernmost point of the Island of Iwoshima, at the entrance to Nagasaki Harbor.	32 43 6	129 45 19	Sept.14, 1871	Hexagonal iron tower, painted white.

LIGHTS OF JAPAN—Continued.

	Appearance and order of light.	True bearings within which light is visible.	Height of light-house to center of lantern.	Height of light above the sea.	Range of visibility.	Remarks.
			Feet.	*Feet.*	*Miles.*	
28	Fixed, white.....	S. 25° W. to N. 41° 30′ W.	15	29	6	
29	Fixed, white, 3d order.	S. 7° W. to N. 70° E ...	21	186	17	
30	....do	N. 82° W. to S.....	21	122	17	Red ray between N. 82° W. and S. 58° E., covering the spit off Motoyama.
31	Fixed, white, 4th order.	N. 40° W. to S. 12° W .	25	89	15	Aino-shima Buoy, which marks the shoal to the north of Aino-shima, bears from the light N. 51° W., distant 4 miles. To avoid the shoal vessels coming in from westward should, after passing north side of North Shiroshima, steer due east, until the light opens out.
32	Fixed, red, 5th order ..	The whole horizon....	42	44	10	
33	Fixed, white, 5th order.	S. 33° W. to N. 33° E..	36½	40	10	
34	Fixed, white, 2d order.	The whole horizon....	44½	182	20	
35	Fixed, white, 6th order.	S. 39° 50′ W. to S. 70° 10′ E.	15	156	8	Green ra, between N. 66° 20′ W. and N. 36° 20′ W., covering Usima or Mése; and red ray between N. 3° 45′ W. and N. 21° 15′ E., covering Hirase and Orise.
36	Revolving every half minute, white, 1st order.	S. 58° 53′ E. to N. 4° 38′ W.	36½	265	23	Strong tide ripples round the cape.
37	Fixed, white, 1st order.	S. 30° W. to S. 85° E....	23	205	21	Hirase Beacon beacon bears S. 82½° E., distant 1 mile 1 cable.

LIGHTS OF JAPAN—Continued.

	Name of light.	Situation of light.	Latitude (north).	Longitude (east).	Date of first exhibition.	Description of building.
			° ′ ″	° ′ ″		
38	Kageno-shima	On the northern point of the Island of Kageno-shima, at the entrance to Nagasaki Harbor.	32 42 42	129 49 25	Mar. 1, 1881	Circular stone tower, painted white.
39	Kuchinotsu.....	On the western head of the entrance to Kuchi-notsu Harbor, Shimabara Gulf.	32 36 14	130 11 33	May 10, 1880	Octagonal brick tower, painted white.
40	*Shimabara*	On a small island at the northern entrance to Shimabara Junk anchorage.	32 46 00	130 25 30	Sept. 1, 1877	....do .....
41	*Otakuma*	On the west bank of the eastern mouth of the Chikugo-gawa, at the head of Shimabara Gulf, Kiushiu.	*33 10 00	130 21 30*	June 15, 1887	Staff, painted white.
42	*Kagoshima*	On the northern end of the breakwater, off Benten Fort, Kagoshima, Province of Satsuma.	31 35 39	130 33 49	Apr. 15, 1879	....do .....
43	Satano-misaki	On a small island at the southernmost point of Province of Osumi, Kiushiu (Cape Chichakoff).	30 59 30	130 39 30	Nov. 30, 1871	Octagonal iron tower, painted white.
44	Kurasaki	On the southern end of Oshima, outside Tonoura Harbor, Province of Hiuga, east coast of Kiushiu.	31 30 54	131 24 48	Aug. 15, 1884	Dodecagonal concrete tower, painted white.
45	Tsuno-shima	On the northwest point of the Island of Tsuno-shima (Kadoshima), near the entrance of Aburatani Harbor (Igama Bay).	34 21 20	130 50 46	Mar. 1, 1876	Circular granite tower.
46	Tate-ishi-no-hana .	Western head of the entrance to Tsuruga Bay.	35 45 37	136 1 10	July 20, 1881	Circular stone tower, painted white.
47	Rokko-saki (Cape Noto).	Northeastern extreme of the Province of Noto.	*37 30 00	*137 19 00	July 10, 1883	....do. .....
48	*Fushiki*.....	On the northwestern bank of the river on which stands the town of Fushiki.	36 47 47	137 3 15	Oct. 10, 1877	Hexagonal wooden tower, painted white.
49	Niigata (temporary light).	On the southern bank of the mouth of the Shinano-gawa.	37 56 26	139 3 29	Feb. 15, 1877	....do .....
50	Kamoisaki.....	On the northwestern extreme (Sail Rock Point) of Shakotan-Gori, Province of Shiribeshi, Hokkaido.	*43 20 00	*140 20 00	Aug. 25, 1888	Circular iron tower, painted red.
51	Hiyori-yama	The eastern extreme of Takashima-gori, Province of Shiribeshi, Hokkaido.	43 14 20	140 54 14	Oct. 15, 1883	Hexagonal wooden tower, painted white.

*Approximated.

LIGHTS OF JAPAN—Continued.

	Appearance and order of light.	True bearings within which light is visible.	Height of light-house to center of lantern.	Height of light above the sea.	Range of visibility.	Remarks.
			Feet.	*Feet.*	*Miles.*	
38	Fixed, red, 6th order ..	N. 81° 30′ W. to S. 55° 30′ E,	15½	40	8	
39	Fixed, white, 6th order.	N. 2° W. to S. 66° W...	16½	126	8	
40	Fixed, white.....	The whole horizon....	26	37½	6	Rebuilt in 1880, the former wooden tower having been destroyed by fire.
41	Fixed, white, staff light.	N. 71° 10′ E. to N. 18° 50′ W.	27	53½	6	
42	Fixed, red, staff light .	The whole horizon....	40	45	6	
43	Fixed, white, 1st order.	N. 62° E. to N. 30° W..	20	200	20½	
44	Revolving every half minute, white, 1st order.	N. 6° 44′ 30″ E. to N. 38° 15′ 30″ W.	32	287	24	
45	Flashing every 10 seconds, white, 1st order.	S. 8° E. to N. 52° E.....	86½	142	18	A dangerous reef, the extreme point of which just uncovers at low water, runs out from the light-house in a NNW. direction for nearly 1 mile.
46	Fixed, white, 4th order.	S. 60° 25′ W. to S. 40° 35′ E.	18½	397	15	
47	Fixed, white, 2d order.	N. 84° 30′ W. to S. 46° E.	26	152½	18	Yomeguri (Arcostook Rock) bears NW. by N., distant about 10 miles. Gameguri reef runs out from Shiwotsusaki (sometimes called Aisaki, a point S. E. of the light) in a northeasterly direction for about 8 cables.
48	Fixed, white, 5th order.	N. 37° 17′ W. to S. 48° 57′ W.	33	38	10	Good anchorage in 5 fathoms water, with the light-house bearing S. 25° W., distant about three-quarters of a mile.
49	Fixed, white	N. 67° 30′ E. to S. 66° 30′ W.	43	68½	10	
50	Flashing every 40 seconds, white, 2d order.	S. 8° 30′ W. to N. 82° 30′ E.	19	248	18	
51	Fixed, white, 4th order.	N. 72° W. to S. 13° E..	25	162½	15	Otaru anchorage to the southward of the light, distant 2½ miles.

LIGHTS OF JAPAN—Continued.

	Name of light.	Situation of light.	Latitude (north).	Longitude (east).	Date of first exhibition.	Description of building.
			° ′ ″	° ′ ″		
52	Soya-saki.....	On the northernmost point of the Province of Kitami, Hokkaido.	45 31 00	*141 55 00	Sept. 25, 1885	Octagonal iron tower, painted white, with 3 horizontal black bands.
53	Nemuro (Bentenshima).	On the northeastern extreme of Bentenshima, Nemuro anchorage, Hokkaido.	43 20 22	145 34 40	July 25, 1872	Staff, painted white.
54	Noshiaf-saki.....	On Cape Noshiaf, Province of Nemuro, Hokkaido.	43 22 54	145 49 2	Aug. 15, 1872	Hexagonal wooden tower, painted white.
55	Yerimo-saki	On the southern extreme of Province of Hitaka, Hokkaido.	*41 55 00	*143 14 00	.....	.....
56	Kattoji-saki	On the point marked "Mussel Point" on English charts, the western side of the entrance to Hakodate Harbor.	41 44 28	140 35 44	Dec. 15, 1885	Octagonal tower of iron framework covered with planks, painted white.
57	Hakodate light-ship.	On the north extreme of the spit which runs out from Bentensaki (point Anama), moored in 7½ fathoms water, at low-water springs.	41 47 36	140 41 52	June 13, 1871	Wooden hull, painted red, 2 masts, with red ball on foremost head.
58	Shirakama-saki...	On the southern extreme of Matsumae-gori, Hokkaido; western entrance to Tsugaru Straits.	41 24 20	140 12 49	Sept. 15, 1888	Hexagonal iron tower, painted with black and white horizontal bands.
59	*Awomori*.....	Situated about 100 yards inward from the coast line, the town of Awomori, province of Mutsu.	40 51 5	140 44 36	Nov. 1, 1874	Staff, painted white.
60	Shiriya-saki	On the extreme northeastern point of the Province of Mutsu, eastern entrance to the Tsugaru Straits.	41 25 58	141 27 32	Oct. 20, 1876	Circular brick tower, painted white.

*Approximate.

LIGHTS OF JAPAN—Continued.

	Appearance and order of light.	True bearings within which light is visible.	Height of light-house to center of lantern.	Height of light above the sea.	Range of visibility.	Remarks.
			Feet.	*Feet.*	*Miles.*	
52	Revolving every half minute, white, 2d order.	S. 77° W. to S. 74° E...	54	132	17	During foggy or thick weather, fog bell of 15 cwts., will be rung at the rate of 12 strokes per minute. No light exhibited nor bell sounded during the months of December, January, February, and March.
53	Fixed, red, staff light.	The whole horizon....	40	75	6	No light shown during the month of February.
54	Fixed, white, 5th order.	N. 74° 30′ W. to S. 27° 30′ W.	31	74	10	Miyoto Rock bears from the lighthouse S. 12° E., distant 1 mile 8½ cables. During foggy or thick weather, fog bell rung at the rate of 12 strokes per minute. No light exhibited nor bell sounded during the month of February.
55	.....	.....	.....	.....	.....	In course of construction.
56	Occulting once every 20 seconds, white, 3d order.	N. 41° 15′ E. to S. 51° 45′ W.	27	137	17	Duration of flash 12 seconds, and of eclipse 8 seconds.
57	Fixed red.....	The whole horizon....	.....	36	10	Storm-signal post bears S. 55° E.; White Bluff SW. of fort S. 10° W.; Yafurai Point S. 85° W. There is a rough bank of bowlder stones directly to the south of the light-ship. Vessels of large draft should pass to the northward of the light-ship. During foggy or thick weather a bell rung 5 times in quick succession at intervals not exceeding 5 minutes. Vessels anchoring outside the light-ship between the bearing NE. from it and a line drawn from it to White Bluff are requested to give the light-ship a clear berth of 5 cables. No restriction as to anchorage to the eastward of these lines.
58	Flashing alternately red and white every 40 seconds, 2d order.	N. 74° 45′ E. to N. 78° 45′ W.	50	120	17	During foggy or thick weather, a fog siren, giving a blast of 4 seconds' duration at intervals of 1 minute, will be sounded. If the siren be disabled, a hand siren will be sounded at intervals of 1 minute with 5 minutes' repose after every 10 minutes' working.
59	Fixed, red, staff light	W. round by north to E.	43	45	6	During foggy or thick weather, steam siren will be sounded giving a blast of 6 seconds' duration with intervals of 1 minute. While steam is being got up for the siren or should an accident happen to it, the 32 cwt. fog bell will be rung at the rate of 15 strokes per minute.
60	Fixed, white, 2d order.	S. 52° 18′ W. to S. 2 42′ W.	93½	150	18½	One (Rattler Rock) bears from the light-house N. 86° 40′ E., distant about 8½ cables.

LIGHTS OF JAPAN—Continued.

	Name of light.	Situation of light.	Latitude (north).	Longitude (east).	Date of first exhibition.	Description of building.
			° ′ ″	° ′ ″		
61	Kinkwasan	Eastern side of Island of Kinkwasan, Province of Rikuzen.	38 16 57	141 35 33	Nov. 1, 1876	Circular granite tower.
62	*Ishinomaki*	At the mouth of the river Kita-kami and on its eastern bank, Province of Rikuzen.	38 25 20	141 19 21	Feb. 1, 1874	Staff, painted white.
63	Inuboye-saki	Easternmost point of the Province of Shimosa.	35 43 27	140 51 32	Nov. 15, 1874	Cicular brick tower, painted white.

NOTES.—The lights are exhibited from sunset to sunrise. The names of the harbor lights or day given in degrees, minutes, and seconds, east of Greenwich. Miles given are nautical miles, or minutes ships, buoys, or beacons, as the case may be. The ranges of visibility are calculated for an observer at

BEACONS OF JAPAN.

Name of mark.	Position.	Color.
Kado-ishi beacon	On the sunken rock called Kadoishi, eastward of navigable channel between Morosaki and Himaga-shima, entrance to Handa Bay, province of Owari.	White
Hira-iso beacon	On the sunken rock Hiraiso, east entrance of Akashi Straits, Inland Sea.	Black and white horizontal bands.
Cho-daiu beacon	On the sunken rock called Cho daiu, north of Hoso-shima in the Mekariseto, Inland Sea; southward of navigable channel.	Red and black horizontal bands.
Yojibei beacon	On Yojibei (Yodsibi) rock in Shimonoseki Straits, eastward of navigable channel.	Red
Naruse beacon	On Naruse Shallow in Shimonoseki Straits, northward of navigable channel.	White
Manaiti beacon	On Manaita rock in Shimonoseki Straits, northward of navigable channel.	White and black horizontal bands.
Fukuse beacon	On Fukuse rock, 6½ miles to the southeastward of the southern point of Hirado-shima and to the southward of the southern entrance of Hirado-no-seto (Spex Straits).	Red and white horizontal bands.
Hirase beacon	On Hirase rock at the entrance to Nagasaki Harbor.	....do
Kamaishi beacon	On the southern rock eastward of navigable channel in Kamaishi Harbor, province of Rikuchiu.	Red

LIGHTS OF JAPAN—Continued.

	Appearance and order of light.	True bearings within which light is visible.	Height of light-house to center of lantern.	Height of light above the sea.	Range of visibility.	Remarks.
			Feet.	*Feet.*	*Miles.*	
61	Fixed, white, 1st order.	N. 9° E. to S. 45° W ..	27½	178	19½	During foggy or thick weather, steam siren will be sounded, giving 'a blast of 5 seconds' duration with intervals of 55 seconds.
62	Fixed, white, staff light.	The whole horizon....	39	52	6	
63	Revolving every half minute, white 1st order.	N. 11° W. to S. 65° W.	90	168	19½	

marks, which are upheld by the local authorities or private persons are printed in italics. Longitude is of latitude. Bearings given are true bearings, and are in every case given from the light-houses, light- an elevation of 15 feet above the sea. The heights of the lights are their heights above high water.

BEACONS OF JAPAN.

Description.	Depth of water at low-water spring tides.	Remarks.
3 cast-iron columns braced together by horizontal and diagonal tie-bars; surmounted by a circular board; 25 feet high above the rock.	Rock uncovers 2½ feet.	Another sunken rock, called Shimose, lies at about 3 cables, bearing S, 18° 30′ E. from the beacon.
Stone beacon, cone-shaped, 32½ feet high above the rock.	Rock covered 7½ feet.	Yesaki light-house bears S. 70° 15′ W.; Wadano-misaki light-house, N. 74° 15′ E.
Stone beacon, cone-shaped, 30 feet high above the rock.	Rock covered.....	Center of Kujira-shima bears N. 26° 15′ E.; northeastern point of Hoso-shima S. 72° 10′ E.; north point of Kosaki-shima S. 78° 45′ W.
Stone beacon, cone-shaped, 20 feet high above the rock.	Rock uncovers 4 feet.	Yamasoko-no-hana (Kibune Point) bears S. 63° W., distant 4¼ cables.
Stone beacon, cone-shaped, with pear-shaped top; 20 feet high above the rock.	Shallow uncovers 2 feet.	Yamaso-ko-no-hana (Kibune Point) bears N. 41° E., distant 2½ cables.
Stone beacon, cone-shaped, surmounted by a ball; 20 feet high above the rock.	Rock scarcely uncovers.	Oyama-no-hana bears S. 82° E., distant 4¾ cables.
Stone beacon, cone-shaped, surmounted by a hemisphere; 40 feet high above the rock.	Rock uncovers 4 feet.	Shisiki Peak, Hirado-shima, bears N. 32° 15′ W., eastern end of Otate-shima S. 5° 40′ W.
Stone beacon, cone-shaped, surmounted by a ball; 20 feet high above the rock.	Rock uncovers about 7 feet.	Iwoshima light-house bears N. 82° 15′ W., distant 1 mile and 1 cable.
Pole beacon, surmounted by a circular cage over a triangular one with a base-work of stone; 26 feet high above the rock.	Rock covered about 2 feet.	Kamaga-saki bears S., distant one-half mile. There is another sunken rock about one-half cable to the northward of the beacon.

JAPANESE BUOYS.

Name of mark.	Position.	Color.
Kawasaki buoy	Outside the bank off Kawasaki in the Gulf of Tokio.	Red.
Kanagawa buoy	Northern side of Yokohama anchorage. At point of spit which stretches from Kanagawa fort.	....do
Yokohama buoy	Southward of Yokohama anchorage. Northern extreme of shallow at ditto.	....do
Honmoku buoy	On the eastern extreme of the shoal off Honmoku (Treaty Point). Two miles and 7 cables south of Honmoku light-ship.	Black and white horizontal bands.
Kita Nakane buoy	On a sunken rock called Nankane, with 3½ fathoms of water on it, east of Natsu-shima, near the entrance to Yokosuka, Gulf of Tokio.	Red.
Nakane buoy	On a sunken rock called Nakane to the eastward of the entrance to Yokosuka Harbor.	....do
Futsu buoy	Western extremity of Futsu-no-su (Saratoga Spit) off Futsu-hana in the Gulf of Tokio.	....do
Gon-sen-su buoy	At the end of the spit off Gon-gen-no-hana (point with a single tree), the extreme west point of the eastern shore of Handa Bay, Owari.	....do
Shika-no-se buoy	On the southern edge of the shoal called Shika-no-se, in Harima-nada, Inland Sea, about 9½ miles westerly and southerly from Yesaki light-house.	....do
Kodono-shima buoy	Immediately to the northward of the sunken rock north of Kodono-shima in the Oge Sete, Inland Sea.	Black and white horizontal bands.
Motoyama buoy	On the southern extreme of the shoal which extends to the southward of Misaki near Motoyama, province of Nagato.	Red.
East Nakano-su buoy	On the southern edge of the shallow called Nakano-su (Middle Ground) east of Shimonoseki Straits.	Black.
West Nakano-su buoy	On the southern edge of the shallow called Nakano-su (Middle Ground) to the westward of the East Nakano-su buoy.	Red.
Tobiga-su buoy	On the northern edge of the shoal called Tobigasu, east of Shimonoseki Straits.	Black and red vertical stripes.
Kanabuse buoy	Directly to the south of Kanabuse (Fisherman's Rock), east of Shimonoseki Straits.	Black and white horizontal bands.
Moji-wan buoy	On the shoal in Moji-wan (Whitehed Bay) in the Straits of Shimonoseki.	Red and black horizontal bands.
Osone buoy	On the southeastern extremity of the shallow called Osone (Hiku Flat) at the westward entrance of Shimonoseki Straits, about 8 cables to the northwestward of Manaita beacon.	Red.
Ainoshima buoy	On northern extremity of the shoal running out in a northwesterly direction from the north end of Ainoshima (Flat Island), northwest of Shimonoseki Straits.	....do

JAPANESE BUOYS.

Description.	Depth of water at low-water spring tides.	Remarks.
Iron buoy surmounted by a cage standing 10 feet above the water.	6 fathoms	Treaty Point bears S. 48° W.; Kawasaki N. 8½° W.; Bansu-hana S. 68° E.
....do	4 fathoms	Mandarin Bluff bears S. 18° E.; S. mouth of creek S. 44° W.; Kanagawa fort N. 59° W.; ligh-tship S. 54° E.
....do	4½ fathoms	Mandarin Bluff bears S. 15° E.; mouth of creek S. 35° W.; center of fort at Kanagawa N. 45° 30′ W.
....do	10 fathoms	Mandarin Bluff bears N. 20° W.; Hachioji-Hana (southern extreme of Treaty Point) N. 45° W.; Koshiba-Hana (Fillmore Point) S. 30° W.
....do	4 fathoms	Northern end of Natsushima N. 82° W.; center of Hashima S. 11° W.; center of Sarushima S. 31° E. Oyma-Dashi Rock with 3½ fathoms water to the westward of the buoy, distant about 2 cables; Okinone Rock with 4½ fathoms water to the northeastward of the buoy, distant about 1 mile.
Iron buoy standing 3 feet above the water.	Rock covered 1½ fathoms.	Center of Hashima bears S. 60° W.; distant 4½ cables.
Iron buoy surmounted by a cage standing 15 feet above the water.	9 fathoms	Mandarin Bluff bears N. 25½° W.; Sarushima S. 55° W.; Kanonsaki light-house S. 6½° E.
Iron buoy surmounted by a cage standing 10 feet above the water.	5 fathoms	The single tree bears N. 75° E., distant about 1 mile. The buoy should be passed to westward.
Iron buoy surmounted by a cage standing 15 feet above the water.	17 fathoms	Yesaki light-house bears N. 79° E.; summit of Jioriu-ji-yama in Awaji, S. 54° E.; western extreme of Yesaki near Yei-ura, western shore of Awaji, S. 5° E.
Iron buoy surmounted by a cage standing 10 feet above the water.	4½ fathoms	Center of Karashima (single tree) bears N. 41° 15′ W.; eastern extreme of Matsushima N. 37° 45′ E.; eastern extreme of Kodono-shima S. 1° 15′ E.
Iron buoy surmounted by a cage standing 15 feet above the water.	5½ fathoms	Kamino-shima bears S. 69° 15′ W.; Hesaki light-house N. 64° W.; summit of Motoyama N. 35° 15′ W.; summit of Himeshima S. 65° 15′ E.
Iron buoy surmounted by a cage standing 10 feet above the water.	3 fathoms	Island of Manju-shima bears N. 8½° E.; Moji Point. S. 73½° W.; Hesaki light-house S. 1½° W. A 1 fathom patch lies immediately to the north of the buoy.
....do	....do	Kushi-saki bears N. 30½° W.; summit of Man-ju-shima N. 42° E.; Hesaki Point S. 39° E.; buoy at Fisherman's rock S. 74° W.
....do	5 fathoms	Hesaki light-house bears S. 46° 5′ E.; Kushi-saki, N. 25° 35′ W.; east end of Manju-shima N. 35° 15′ E. There is 2½ fathoms patch on the shoal.
....do	9 fathoms	Moji Hill bears S. 41½° W.; Hesaki Point S. 70½ E.; Kushi-saki N. 30° E.
....do	2½ fathoms	Telegraph office N. 65° 30′ W.; extreme point of Moji-saki N. 31° 15′ E.; Yoji-bei red beacon S. 30° 30′ W.
Iron buoy surmounted by a cage standing 12½ feet above the water.	9 fathoms	Manaita beacon bears S. 49° E.; extreme point of Nagoyasaki S. 81° 30′ W.; center of Maiko Island (Hamo Island on British charts) N. 2° 30′ W.
Iron buoy surmounted by a cage standing 15½ feet above the water.	6 fathoms	The northern end of North Shiroshima bears N. 89° 30′ W.; the summit of Cape Morotsu N. 55° E.; the northern end of Mutsure (Rookuren) Island S. 53° 15′ E.

TONNAGE DUES.

The only dues collected from foreign vessels are 15 yen ($11.01 gold) for entry, and 7 yen ($5.14 gold) for clearance. There is no discrimination as to the flag and no foreign nationality enjoys special privileges. These dues on foreign vessels are fixed by the treaties.

Steamers and vessels sailing under the Japanese flag and built upon foreign style pay the following tonnage dues: Steamer, every 100 tons 15 yen per annum. Sailing vessel, every 100 tons 10 yen per annum.

Junks and other small boats pay the following measurement dues: Junk of more than 50 koku, each koku 0.02 yen per annum. Junk of less than 50 koku, and fishing boat with five oars or over, 0.75 yen per annum. Fishing boat with four oars or less, 0.25 yen per annum. Sampan or shore boat, each koku 0.02 yen per annum.

A koku is equal to 6.33 cubic feet.

QUARANTINE.

So far as ships are concerned no regular quarantine rules are observed. A ship on arrival is boarded by a customs officer, who asks certain questions as to the name of the ship, port of last departure, character of cargo, how much of it, and what is proposed to be landed, but no bill of health is demanded or required to be shown. It is customary for the masters of the American vessels to deposit their bills of health with the ship's papers in the United States consulates, but this is not done under any Japanese regulation.

When information is received that cholera is epidemic at any port, foreign or Japanese, such port may be declared as infected, and vessels arriving at any other port from it are subjected to quarantine, and certain rules and regulations have been promulgated by imperial decrees and by the minister of the interior on the subject.

I inclose herewith copies* of such decrees, one being issued July 14, 1879, another June 23, 1882, and the other June 14, 1883, and am informed by the authorities that these are all that have been promulgated, and that, in fact, there are no rules or regulations respecting any disease other than cholera so far as the quarantine of ships is concerned.

Upon inquiry at the office of the governor of this ken, he having local jurisdiction over health matters in Yokohama and in the port of Yokohama, as to what would be done if smallpox or any other recognized infectious disease was found upon a vessel, I was informed that the governor would take such steps as he deemed proper and report the matter at once to the Imperial Government at Tokio. He would, no doubt, in case of foreign ships, confer with the proper consul.

Since I have been at this post no American ship, nor, so far as I can learn, any other foreign vessel, has been detained in quarantine. Upon two occasions I was requested to direct masters of American steamers arriving here en route to San Francisco from Hong-Kong, where cholera was then said to be prevalent, to permit a Japanese medical officer to go on board and make official inspection. I complied with these requests at once and notified the masters of the steamers and local agent of the steamship company, but no case of cholera was found and there was no detention or trouble or inconvenience of any kind.

I am informed that where ships have been detained in quarantine the passengers and crew were removed on shore and furnished with

* Only one copy of each decree could be obtained.

bath and clean wearing apparel while their own clothes were being disinfected, and the ship fumigated; also, with food and comfortable lodging, and all at the expense of the Japanese government, and that the detention in quarantine has not exceeded more than 24 hours, as a rule, and I think every effort has been made as far as possible to obviate annoyance or inconvenience.

Where Japanese are found on vessels sick with an infectious disease and their removal is deemed proper they are taken to some Japanese hospital.

In the case of a foreigner the matter would be arranged with the consul representing his nationality.

The various kens or prefectures have local boards of health, which, under the supervision of the governors, take charge of matters concerning infectious diseases in the ken, under rules and regulations promulgated by the Imperial Government.

Six diseases, namely, cholera, smallpox, typhoid fever, typhus fever, diphtheria, and dysentery are classed as infectious, and when it is considered necessary Japanese patients are isolated and furnished with medical attendance or removed to a proper hospital.

The precautions and steps respecting cholera are very thorough and efficacious.

Vaccination is compulsory with the Japanese, and each is required to have a doctor's certificate showing that he has been vaccinated, and stations are established where vaccination is performed by an official without charge.

These regulations, however, are not applied to foreigners, and the treatment and management of each case of an infectious disease contracted by a foreigner is arranged by conference between the governor of the ken and the proper consul.

In Japan, in any case, the Imperial Government can take full charge of all quarantine or health matters and supercede the State or municipality so far as the Japanese are concerned.

C. R. GREATHOUSE,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Kanagawa, September 18, 1889.

Quarantine regulations established by His Imperial Japanese Majesty's Government July 14, 1879. *Revised 21st July,* 1879.

[Inclosure No. 1.—Dispatch No. 209—Kanagawa.—Translation.]

ARTICLE 1. The Government of Japan having declared a quarantine, for the purpose of preventing the spread of cholera, the following regulations are hereby declared applicable to the open ports, and the same shall be observed and enforced until further notification.

ART. 2. A local board of health will be organized at such of the open ports as the central board of health shall determine upon, consisting of government officers, properly educated and qualified Japanese or foreign medical men, a chemist, and a suitable staff of assistants. The number of members will be regulated in each instance by the amount of shipping at the port, but in all cases will be sufficient to insure the speedy disposal of all matters of quarantine.

All such local boards will be under the control of the central board of health.

ART. 3. The Government will appoint a quarantine anchorage at each of the open ports under quarantine regulations, and will provide a hospital for cholera patients, a separate hospital for the reception of doubtful cases, a place for the disposal of the dead, properly fitted buildings for disinfection, and quarters comprising all necessary accommodation for the persons under surveillance.

ART. 4. A guardship displaying a quarantine signal will be stationed near the entrance to each port under quarantine regulations, where every vessel, before entering the harbor, will be detained for inspection by at least two members of the local board, one of whom must be a medical officer. The commanding officer, surgeon, if any, and any person on board shall answer all inquiries of the quarantine officers; and a written declaration shall be filled up and signed in the prescribed manner and form.

The commanding officer shall also, if required, open every portion of his vessel to inspection; the cargo-holds shall however only be subject to inspection when they have been occupied by passengers or crew during the voyage, or otherwise directly exposed to infection.

The quarantine officers shall be allowed to examine the ship's log, and to compare the crew and passenger lists with the persons on board.

ART. 5. If the commanding officer of any vessel arriving from an uninfected and unsuspected port shall have satisfied the quarantine officers, by his written declaration and otherwise, that his vessel has had no direct communication with any infected or suspected port or vessel, and that no cases of undoubted or suspected cholera have occurred on board during the voyage, the vessel shall be allowed to enter the port at once. In the case of a vessel of war, a written declaration to the above effect, signed by the commanding officer and surgeon, shall always be held sufficient, and the vessel shall be allowed to enter the port without inspection, but in the absence of such declaration the vessel shall be subject to the rules of the quarantine.

ART. 6. On the arrival of any vessel, which either at the commencement or during the course of its voyage has had any direct communication with an infected or suspected port or vessel, but on board which no case of suspected or confirmed cholera has occurred during the voyage, the vessel and persons on board shall be detained until the completion of a period of seven days, counting from the date of such exposure to infection, except in special cases in which the local board may consider it safe to shorten the term. Should the above period have expired on or before the arrival of the vessel, the passengers shall be at liberty to land immediately upon the completion of the necessary disinfection.

The cargo, unless consisting of rags, old clothes, bedding, or other articles considered specially dangerous by the quarantine officers, shall not be subject to disinfection; but disinfection of other articles shall be performed or omitted at the discretion of the quarantine officers, and disinfected articles may be landed as soon as the process is completed. Cargo and other articles unless disinfected shall not be landed until the expiration of the period of detention.

Should any case of confirmed or suspected cholera appear in a vessel during detention, such vessel and all persons and things on board the same shall be subject to the provisions of articles 6 and 7.

ART. 7. Any vessel of war arriving from an infected or suspected port shall be allowed to enter at once, provided the commanding officer and surgeon shall furnish a written declaration that no person on board has landed at such port or has been otherwise exposed to infection within the period of 7 days preceding the arrival of the vessel, and that no case of confirmed or suspected cholera has appeared on board during the voyage.

In the absence of such declaration the vessel will be required to submit to the quarantine regulations.

ART. 8. Any vessel on board of which suspected or confirmed cholera has appeared shall on arrival remove to an anchorage indicated by the quarantine officers, and shall be liable to detention for a period of 7 days counting from the date at which the necessary disinfection is completed.

If before the arrival of the vessel the disease shall have disappeared and disinfection have been subsequently performed in a manner satisfactory to the quarantine officers, the period of detention may be shortened so far as the local board may deem advisable.

On the other hand, in the event of the appearance of cholera upon a vessel in quarantine after the disinfection has been performed, the disinfection shall be repeated so far as may be considered necessary by the officers of the local board, and the vessel shall be detained for 3 days from the time of completion of such disinfection or until the end of the period of detention at first prescribed, should the time unexpired exceed 3 days. Any patients or dead bodies shall be dealt with according to the provisions of article 9.

ART. 9. On the arrival of any such vessel as in the last preceding clause mentioned, any patient still suffering from the disease shall if his condition admits be removed to the quarantine hospital; and, should death have resulted in any case, the body, if not already disposed of, shall either be burned at a place prepared for that purpose, or, at the request of the persons interested, buried after thorough disinfection.

After the removal from the vessel of such patients or dead bodies, the bedding, clothes, and other articles, and any part of the vessel which has been exposed to the infection shall be thoroughly disinfected in the manner prescribed by the local board; and all persons on board, except those required for completing the disinfection and taking care of the vessel, shall be removed to and disinfected at the quarantine buildings set apart for their accommodation. Those remaining on the vessel may undergo disinfection either on board or when replaced by others, in the proper building ashore.

ART. 10. Vessels which have been at an infected or suspected port and which have subsequently touched at a port without undergoing a quarantine, shall be treated as coming directly from the infected port.

ART. 11. All vessels regularly carrying mails shall be allowed to land their mail matter immediately on their arrival, and suitable means for transport and delivery of such mail matter will be provided by the Government.

ART. 12. Patients in the quarantine hospital shall receive medical attendance and all necessaries.

Any person desiring to visit a patient in the hospital or on board any vessel in quarantine will be permitted to do so under certain conditions prescribed by the local board.

Qualified medical men, not connected with the quarantine hospital, may be admitted to consultation, at the request of patients or their representatives.

No patient shall leave the hospital until discharged by the medical officers.

ART. 13. In cases where no confirmed or doubtful cholera has occurred on board, persons under surveillance may be detained in the vessel or, at the discretion of the local board, be removed to the quarantine quarters provided on shore, according to the hygienic condition of the vessel.

ART. 14. In the event of the appearance on board a vessel coming to a port under quarantine regulations of any case of illness with obscure symptoms which the quarantine officers may consider probably of choleraic origin, the patient shall be removed to a special quarter of the quarantine hospital, and the vessel shall be detained until the expiration of a sufficient time, which shall not exceed 48 hours, to enable the medical officer to form a decision as to the nature of the disease; and the local board, on the report of the medical officer, shall put in force such of these regulations as shall be applicable to the case.

ART. 15. All vessels in transit from infected or suspected ports, touching at a port under quarantine regulations for the purpose of receiving supplies or cargo, shall be allowed to receive such supplies or cargo by such means and under such restrictions and conditions as may in each case be imposed by the local board. But all such vessels shall previously be subject to medical inspection and to any disinfection considered necessary by the quarantine officers. Should any case of doubtful or confirmed cholera have occurred on board, the vessel and all persons and things on board shall be subject to the provisions of articles 8 and 9. All persons landed from such vessels shall be subject to the regulations applicable to persons arriving in other vessels.

ART. 16. The inspection of all vessels shall be completed as soonas possible after arrival. If upon the expiration of 12 hours from the time of arrival no inspection shall have been made, the vessel shall be allowed to enter the port, unless such delay has been occasioned by bad weather or other unavoidable circumstances, or by any act or default of the commanding officer or other person connected with the ship, in which case the inspection shall be made when the causes of delay have terminated.

ART. 17. The disinfection ordered by the local board shall in all cases be carried out by the quarantine officers, assisted by the officers and crew of the vessel, at the expense of the owners of the vessel or other persons concerned, and shall be completed, if possible, within 24 hours after the order for disinfection has been given.

ART. 18. Should a case of confirmed or doubtful cholera occur on board any vessel lying in any port under quarantine regulations, such vessel and all persons and things on board the same at the time of such occurrence shall immediately become subject to the provisions of articles 8 and 9. Should the vessel however have already been in quarantine at the port in which she is lying, the quarantine officers shall repeat the measures of disinfection and surveillance only to such an extent and in such manner as shall be considered necessary by the local board.

ART. 19. Vessels arriving at an open port where cholera already prevails shall be subject to those of the foregoing regulations which refer to inspection, disinfection, and the disposal of cholera patients and of the bodies of those who have died of the disease; for the carrying out of which due provision will be made by the Government; but the rules for the detention of vessels and persons on board shall be suspended.

ART. 20. In the case of the arrival of vessels coming within the terms of article 6 or of articles 8 and 9 the condition of which is considered especially dangerous to the public health, such vessels may be subjected to precautionary and restrictive mea-

ures beyond such as are authorized in ordinary cases by these regulations, if in the opinion of the local board such extraordinary measures are necessary. In such cases the local board shall at once forward a special report of the circumstances to the central board, and a copy of such report shall, upon application, be afforded by the local board to the master, owners, or agents of any vessel so treated.

ART. 21. No person shall be permitted to visit any vessel under inspection or in quarantine, or to enter the surveillance quarters, without permission of the local board.

ART. 22. All personal expenses for food, medical treatment, and other necessaries incurred under or by reason of any of the foregoing regulations shall be borne by the persons on whose behalf such expenses have been incurred or their representatives.

ART. 23. Any person violating or refusing to comply with any of the foregoing regulations shall be liable to a fine not exceeding 200 yen for each offense, unless such person be the commanding officer, owner, or agent of any vessel in connection with which such violation or refusal occurs, or be acting under the orders or on behalf of such last-mentioned persons or any of them, in which case the fine may be increased to 500 yen for each such offense: *Provided*, That the nonpayment of any expenses payable under these regulations shall not subject any person to a fine, but that such expenses shall be recoverable by civil process only.

Persons or vessels leaving the quarantine station in breach of these regulations shall, in addition to any fines incurred, be liable to be immediately reconveyed thither.

SANJO SANETOMI,
H. I. J. M.'s Prime Minister.

SUMMARY OF THE QUARANTINE REGULATIONS.

Art. 1.—Establishment of quarantine.
Art. 2.—Organization of local boards of health.
Art. 3.—Quarantine anchorage; hospital; disinfecting buildings; disposal of dead; surveillance quarters.
Art. 4.—Guard ship; visitation of ships; questions to be answered, etc.—Inspection—Comparison of lists with persons on board.
Art. 5.—Vessels arriving from uninfected and unsuspected ports; special provision for men-of-war.
Art. 6.—Vessels from infected or suspected ports, on board of which no cholera has appeared; period of detention—Mode of dealing with cargo and other articles, and with persons on board—Action when cholera appears during detention.
Art. 7.—Special provision for vessel of war from infected or suspected ports—Declaration required.
Art. 8.—Vessels from infected ports on board of which any case of cholera has occurred; period of detention—Modification of rule where disease has disappeared and disinfection has been subsequently carried out before the arrival of the vessel—Additional detention in certain cases.
Art. 9.—Treatment of persons, cargo, etc., on board vessels in which cholera has appeared during the voyage.
Art. 10.—Treatment of vessels that have touched at infected or suspected ports and which have subsequently touched at other ports without undergoing quarantine.
Art. 11.—Landing and delivery of mail matter.
Art. 12.—Regulation of quarantine hospitals:
Treatment of patients—Admission of visitors—Medical consultations—Discharge of patients.
Art. 13.—Persons under surveillance on shipboard or at the quarantine quarters.
Art. 14.—Detention during observation of doubtful cases of sickness.
Art. 15.—Vessels in transit requiring supplies or cargo.
Art. 16.—Inspection, time for.
Art. 17.—Disinfection; time of commencement and of completion; defrayal of expenses.
Art. 18.—Action when cholera breaks out on board a vessel in port.
Art. 19.—Regulation when cholera already exists in an open port.
Art. 20.—Extension of powers of regulations in case of vessels considered especially dangerous to the public safety.
Art. 21.—Visitors to vessels and surveillance quarters.
Art. 22.—Defrayal of personal expenses.
Art. 23.—Penalties for violation of quarantine regulations; proviso as to nonpayment of expenses.

[Inclosure No. 2—Dispatch No. 209—Kanagawa. Translation.]

*Imperial decree No. 31.**

It is hereby decreed that vessels arriving from localities infected with cholera shall be inspected according to the following regulations:

REGULATIONS FOR THE INSPECTION OF VESSELS ARRIVING FROM LOCALITIES INFECTED WITH CHOLERA.

1. All vessels arriving from localities infected with cholera shall be subject to medical inspection, and no vessel so arriving shall proceed to her destination or communicate with the shore or other vessels, or land her crew, passengers, or cargo, until a written permission so to do, signed by one of the inspecting officers, shall have been so granted as hereinafter provided.

2. When there are no cholera patients or bodies of persons who may have died of the said disease on board such vessels the inspecting officers shall forthwith grant permission to such vessels to proceed to their destination and communicate with the shore or other vessels and to land their crew, passengers, and cargo.

The inspecting officers may, whenever they deem it necessary, effect complete disinfection of such vessels by requiring them to remain at an anchorage to be designated by them for a period not exceeding 48 hours.

3. Vessels so arriving and having on board cholera patients or the bodies of persons who may have died of the said disease shall be required to anchor at a place designated by the inspecting officers at a safe distance from the land and other vessels.

The patients shall be sent to the quarantine hospital or to their residences or other places which the inspecting officers may deem suitable. The dead bodies (if any) of persons who may have died of the said disease shall (at the option of persons interested, if any) be either burned at a place prepared by the local authorities for that purpose or buried after undergoing thorough disinfection at such place as the local authorities may designate.

After final disposition of such patients and dead bodies (if any) shall have been made, the inspecting officers shall thoroughly disinfect the crew and passengers and shall thereupon grant permission for them to land. The inspecting officers shall thoroughly disinfect said vessels and such portion of their cargoes as may be considered to be of an infectious character and thereupon grant permission for them to proceed to their destination or communicate with the shore or other vessels and to land cargo.

4. Any person or persons who shall contravene or infringe the provisions of the foregoing regulations or shall in any manner interfere with the execution of said provisions shall be punished according to the criminal code.

5. The localities where these regulations shall be put in force and the length of time for which they shall be continued in force will be determined from time to time by the minister of the interior.

Dated 23d of the 6th month, 15th year Meiji (June 23, 1882).

By command of H. I. M. the Emperor.

SANJO SANETOMI,
Prime Minister.
YAMADA AKIYOSHI,
Minister of the Interior.

[Inclosure No. 3—Dispatch No. 209—Kanagawa.—Translation.]

INTERIOR DEPARTMENT INSTRUCTION C, NO. 3.

To the Keishicho of Tokio and all littoral Fu and Ken:

Pursuant to the issuance by the department of the interior of notice, in conformity with the fifth article of the regulations for inspection of vessels arriving from localities infected with cholera, promulgated by imperial decree No. 31, of the 15th year of Meiji, that the said regulations shall be inforced, all Japanese and foreign vessels shall be subject to inspection in accordance with the following directions.

YAMADA AKIYOSHI,
Minister of the Interior.

[14th day of the 6th month of the 16th year of Meiji.] (June 14, 1883.)

* Promulgated 2d day, 9th month, 18th year Meiji. (Decree No. 29 of 18th year Meiji.)

DIRECTIONS FOR THE MEDICAL INSPECTION OF VESSELS ARRIVING FROM LOCALITIES INFECTED WITH CHOLERA.

1. On the arrival at any harbor or port of any ship or vessel, at least two inspecting officers of the port shall immediately proceed on board, and in case of a foreign vessel so arriving, such officers shall be accompanied by an English interpreter; each of the said officers shall exhibit to the master of the vessel so boarded his certificate of appointment (Form A), and shall inquire whether the vessel has arrived from a locality infected with cholera. In case the port of clearance shall have been so infected, the said inspecting officers shall ascertain whether there are or have been during the voyage any cholera patient or patients, or whether there are on board the body or bodies of any person or persons who have died of the said disease, and if deemed necessary the said inspecting officers shall personally inspect any such vessel so arriving.

2. If the inspecting officers are satisfied that there are not at the time and have not been on board the vessel during the voyage, any cholera patient or patients or the body or bodies of any person or persons who have died of the disease; and if the vessel is of foreign form of construction and engaged in the transportation of passengers, the said inspecting officers shall, upon obtaining from the master thereof a certificate to the effect that the sanitary condition of the vessel is good, deliver to the said master in pursuance of article 2 of the said regulations a permit in accordance with Form B.

In case any cholera patient or patients, or the body or bodies of any person or persons who have died of the disease, are found on board the vessel, or if it shall be discovered that there have been cases of cholera on board during the voyage, the inspecting officers shall carry out the measures with reference to the crew and passengers prescribed by article 3 of the said regulations, and shall thereafter deliver to the master a permit in accordance with the first part of Form C, permitting the disembarkation of the crew and passengers of the vessel, and the said inspecting officers shall, after thoroughly disinfecting the vessel and such portions of the cargo as may be considered to be of an infectious character, deliver to the master a permit in accordance with the latter part of Form C, permitting him to proceed with his vessel to his destination; to communicate with the shore and other vessels and to discharge cargo.

Exception.—All small Japanese steamers and small Japanese junks engaged in inland navigation shall be subject to more summary methods of inspection, and the permits to be delivered to the masters thereof shall be simpler in form than those provided by Forms B and C.

3. Vessels of war, either Japanese or foreign, shall also be subject to inspection; nevertheless, if the commanding officers or the chief medical officers of such vessels shall deliver to the inspecting officers certificates to the effect that there are not and have not been on board during the voyage any cholera patient or patients or the body or bodies of any person or persons who have died of the said disease, such certificates shall be accepted by the said inspecting officers and no inspection shall be made. In case, however, there are or have been on board during the voyage any cholera patient or patients or the body or bodies of any person or persons who have died of the said disease, the said inspecting officers, after consultation with the said commanding officers or the chief medical officers, shall carry out the measures prescribed by the said regulations; but the permit required in other cases by articles 2 and 3 hereof respectively shall be dispensed with.

4. The inspecting officers shall, upon proceeding on board a foreign vessel, take with them either written or printed English translations of the regulations for the inspection of vessels arriving from localities infected with cholera, promulgated by imperial decree No. 31 of the 15th year of Meiji, and deliver to the master a copy thereof.

Form A.

(Size, about six sun in length and about eight sun in width. No particular kind of paper is imperative. To be expressed in Japanese, and an English translation to be indorsed on the back.)

To the masters of vessels arriving at the port of ——:

Know ye, that in pursuance of instructions from His Imperial Japanese Majesty's minister of the interior, I (name), (chiji or kenrei of —— or president of the metropolitan police bureau) have appointed —— an inspecting officer of this port, to carry into effect the provisions of the regulations for the inspection of vessels arriving from localities infected with cholera, promulgated by imperial decree No. 31, dated the 23d day of the 6th month, the 15th year of Meiji. The said inspecting officer is authorized to make inquiries of the masters or commanding officers of all

vessels arriving, whether they have arrived from infected localities and whether there are or have been on board during the voyage any cases of cholera among the passengers or crew, or whether there are on board such vessels the body or bodies of any person or persons who have died of the said disease, and the said inspecting officer is also authorized to demand and take from every such master or commanding officer a certificate regarding the sanitary condition of the crew and passengers of the vessel under his command, and the said inspecting officer is furthermore empowered to inspect all vessels arriving from infected localities, if he deems such inspection necessary.

——— ———,
(Official title.)

Date ———.

Form B.

(Same size as Form A, English translation to be indorsed on the back.)

Permit granted by ——— and ———, inspecting officers of the port of ———, to the master of (name, nationality, and class of vessel.)

We, ——— and ——— inspecting officers of the port of ———, have, in pursuance of the regulations for the inspection of vessels arriving from localities infected with cholera, promulgated by imperial decree No. 31, dated the 23d day of the 6th month, 15th year of Meiji, inspected the (name, nationality, and class of vessel) lately arrived from the infected port of ———, and being satisfied that there are not and have not been on board the said vessel during the voyage any cholera patient or patients and that there are not on board the said vessel the body or bodies of any person or persons who have died of the said disease, we hereby authorize and permit in accordance with article 2 of the said regulations the said vessel to proceed to her destination; to communicate with the shore and other vessels; to land the crew and passengers and to discharge cargo.

——— ———,
——— ———,
Inspecting officers of the port of ———.

Date ———.

Form C.

(When issued to foreign vessels an English translation shall be indorsed on the back.)

Permit granted by ——— and ———, inspecting officers of the port of ———, to the master of (name, nationality, and class of vessel).

We, ——— and ———, inspecting officers of the port of ———, have, in pursuance of the regulations for the inspection of vessels arriving from localities infected with cholera, promulgated by imperial decree No. 31, dated the 23d day of the 6th month, 15th year of Meiji, inspected the (name, nationality, and class of vessel) lately arrived from the infected port of ——— and (having found on board thereof ——— cholera patients, or as the case may be, ——— bodies of persons who have died of the said disease, or, having found that during the voyage from thence there have been ——— cholera patients on board), having duly disinfected the crew and passengers of the said vessel in accordance with the provisions of the first and second paragraphs of article 3 of the said regulations, we hereby authorize and permit the crew and passengers of the said vessel to land.

(After disinfection of the vessel and cargo a permit shall be granted in accordance with the foregoing form, modified as follows): And having duly disinfected the said vessel and cargo in accordance with the provisions of article 3 of the said regulations, we hereby authorize and permit the said vessel to proceed to her destination; to communicate with the shore and other vessels, and to discharge cargo.

——— ———,
——— ———,
Inspecting officers of the port of ———.

Date ———.

NAGASAKI.

REPORT BY CONSUL BIRCH.

PILOTAGE.

While not compulsory, the Japanese and foreign vessels employ the services of pilots on their steamers and sailing vessels, but not on native coasting junks.

The rates of pilotage for foreign sailing vessels and steamers are: From sea to Nagasaki Harbor (the boundary line of this district is drawn from Fukudamura, in Hizen, to the northernmost point of Iwosima, in the same province, thence over Okishima and Royakishima to Fukahori in the same province), $2 per foot draft. The Japanese vessels pay the same if they are of foreign form of construction. No foreign flag is free from this obligation, nor does any foreign flag enjoy special privileges. The vessels in distress and foreign men-of-war also pay the pilotage.

For coast pilotage the charges are according to the agreement between master and pilot per trip, and the return passage money for pilot is included. Every pilot (Japanese or foreign) pays a fee of $10 for his license and $1 for renewal of the same. For mooring a vessel, either steam or sailing, in the harbor the pilotage fee is, for vessels not exceeding 300 tons, $10; for vessels over 300 tons, $1 per foot draft.

LIGHT AND TONNAGE DUES.

There are no light dues in Japan.

There are no tonnage dues in Japan. The only port charges are $15 entrance and $7 clearance for vessels of foreign form of construction, and $2 entrance and $4 clearance for Japanese junks going to and coming from Korean ports, loaded or otherwise. No distinction as to flag, except men-of-war and yachts, and no other special privileges.

JOHN M. BIRCH,
Consul.

UNITED STATES CONSULATE,
Nagasaki, June 30, 1890.

SIAM.

REPORT BY CONSUL-GENERAL CHILD, OF BANGKOK.

PILOTAGE.

There is no compulsory pilotage in Siam. Pilot charges are the same for native and foreign vessels. No foreign flag enjoys special privileges in this particular.

Vessels in distress and foreign war vessels pay pilotage.

LIGHTS AND LIGHT DUES.

The light dues on steam and sail vessels, laden or in ballast, is 1½ cents per ton, payable as light dues. The light is a dioptric light, 48 feet high, visible 7 miles.

The rate on American vessels is 1½ cents per ton, collected by custom-house. There is no discrimination in regard to vessels of the United States. Native vessels engaged in foreign or coasting trade are charged the same as vessels of the United States.

TONNAGE DUES.

Tonnage is collected on all classes of vessels. There is no discrimination in regard to flag.

No vessels of any nationality enjoy special privileges.

QUARANTINE.

There are no rules as to quarantine.

JACOB T. CHILD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Bangkok, September 8, 1890.

SPANISH ASIA.

PHILIPPINE ISLANDS.

REPORT BY CONSUL WEBB, OF MANILA.

PILOTAGE.

The only place in the Philippine archipelago where pilotage is compulsory is in the Pasig River, at Manila. This river, which is not more than 200 yards wide in any place, is navigable for large vessels for about 1 mile from its mouth. For this distance both banks are substantially diked and a continuous wharf is available. This is used principally by the numerous coasting vessels, the mail steamers from Hong-Kong and Amoy anchoring in the stream 10 or 15 feet from the wharf. Heavy-draft vessels of all kinds always anchor in the bay, from 2 to 3 miles from the mouth of the river, as there is very seldom a sufficient depth of water in the latter to allow them to enter it, and as its limited space would seriously interfere with the work of loading and discharging cargo.

Along the west bank of the river are situated the principal warehouses, which receive from and deliver freight to the lighters which run to and from the vessels anchored in the bay. Sailing vessels are piloted from the entrance to Manila Bay, about 27 miles from the mouth of the Pasig River, to their anchorage in the bay, when their masters desire it, but there is no law requiring them to do so.

Pilot charges are the same to all vessels, and no flag enjoys special privileges in this regard. All vessels that enter the river must have a pilot whether they are in distress or are vessels of war, and all pay alike. The only vessels of war, however, that enter the river are the small Spanish transports, all men-of-war anchoring in the bay.

LIGHT DUES.

Light dues on all steam and sailing vessels from foreign ports, of 8 cents per ton and 10 cents per ton port tax, are collected at the three ports of the Philippines, Manila, Iloilo, and Cebu, except when the vessel arrives and departs in ballast; then it is exempt from all charges. These dues must be paid at every port at which the vessel loads or unloads cargo. These dues are collected through the custom-house, and there is no discrimination in favor of nor against the vessels of the United States. Coasting vessels sailing under the Spanish flag pay 5 cents per ton only.

I am indebted to Sor. Don Guillermo Brockmann y Abarzuza, superintendent of the light-house service, for the accompanying table (see inclosure) giving a complete list of the light-houses of the Philippine and Caroline Islands, their location, general character, etc. American petroleum is generally used in these lights, but some of them use paraffine and others cocoanut oil.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels except when they enter and leave the port in ballast. There is no discrimination in regard to flag except in the case of Spanish coasting vessels, which, as stated above, pay but 5 cents per ton. Mail steamers running regularly between this and foreign ports are exempt from all charges. No foreign vessels, except mail steamers, are entitled to special privileges under the law.

QUARANTINE.

All vessels are quarantined that come from ports where Asiatic cholera, yellow fever, or the Eastern plague is epidemic or reported prevalent, as well as those which have on board persons ill with smallpox and scarlet and typhus fevers. The quarantine is of two classes: "Cuarentena de vigor" or perfect isolation, and "cuarentena de observacion" or inspection. In the former the vessel remains at the quarantine station at the entrance to Manila Bay, 27 miles from the city, for 10 days, when, if there has been no death nor illness on board from either of the diseases named, it is allowed to enter port; if, however, there has been illness or death it is required to remain for 15 days or until all traces of the disease have disappeared. The second class is subject to inspection for from 24 to 72 hours in the port. In a case of this kind it is not necessary to discharge the cargo, but it is fumigated with the vessel. In a case of the first class it is necessary to discharge the cargo and make the vessel perfectly clean.

The expense of a fumigation, cleaning, and discharging cargo is paid by the master or consignee of the vessel, upon whom also falls the maintenance of the passengers.

Upon the arrival of a vessel in port the master is at once furnished with a copy of the customs regulations, printed in English, Spanish, and French.

ALEX. R. WEBB,
Consul.

UNITED STATES CONSULATE,
Manila, Phillippine Islands, September 14, 1889.

Philippine light-houses.

[Inclosure in Consul Webb's report—Translation.]

Name of light-house.	Location.	Kind of apparatus.	Appearance of the lights.	Distance reached by the lights in marine miles.	Arc of illumination.	Elevation of the luminous focus over—		Remarks.
						The earth.	The level of the sea.	
Light-house of—					°	*Metres.*	*Metres.*	
The Isle of Cabra	Lat. 13° 53′ 28″ N.; long. 126° 13′ 15″ E. from San Fernando.	1st class catadioptrico.	Groups of 2 scintillations (white), being 2 seconds between each scintillation, an interval of 7 seconds between 2 scintillations of the same group, and 37 seconds between two contiguous groups.	25	(*)	20.40	66.220	The tower is of brick, of prismatic form and square section with basement; the residence of the light-keeper is also of brick with galvanized iron roof.
The Isle of Corregidor.	Lat. 14° 23′ 05″ N.; long. 126° 45′ 55″ E. from San Fernando.	2d class catadioptrico.	White scintillations, 30 each half minute.	32	360	12.80	189.143	The tower is cylindrical, elevated above the center of the residence of the light-keeper, which has a roof of galvanized iron. All the buildings are painted white.
Pulo Caballo	Lat. 14° 22′ 30″ N.; long. 126° 48′ 27″ E. from San Fernando.	6th class catadioptrico.	Fixed white	9	360	8.37	29.37	The tower is circular, the house of the light-keeper is of wood with galvanized iron roof, and both buildings are painted white.
Seven Sins	Long. 10° 46′ 4″ N.; lat. 128° 52′ 34″ E. from San Fernando.	6th class catadioptrico.	Fixed white in all its circle of illumination except in 1 sector of 20 degrees, in which the light is red with the word "Yguana" under it.	11.50	360	9	30	The house of the light-keeper is of brick, painted white, with galvanized iron roof, in the center of which is the tower, which is of iron.
The Pasig River	On the dike north of the mouth of the river.	6th class catadioptrico.	Fixed red	8	360	15	16.25	The tower is conical at its base and cylindrical at its upper portion, the house of the keeper is of brick, and both buildings are painted white.
Litoan	At Bagacay Point, E. coast of Cebu.	6th class catadioptrico.	Fixed white	9	.....	6.46	14.10	The tower is of brick and cylindrical, painted white; the house of the keeper is of light material.

Sidereal light at—								
The port of Dagupan.	Long. 120° 31′ E.; lat. 16° 5′ 30″ N. from San Fernando.	Apparatus dioptrico, .30 of a metre in diameter.	Fixed red	6	240	7	9	These are lodges of iron, in front of which are two posts that sustain a pulley with which to raise the lantern half the length of the chain, over a wheel arranged inside. The house of the light-keeper is made of light material, gathered in the vicinity.
The port of Dapitan.	Long. 129° 33′ 45″ E. from San Fernando; long. 2° 24′ 7″ E. from Manila; lat. 8° 42′ 30″ N.	....do	....do	8	240	6	13. 200	
The port of Pavso.	Long. 131° 47′ 20″ E. from San Fernando; long. 4° 31′ 45″ E. from Manila; at. 7° 1′ 30″.	....do	....do	6	240	6	8. 300	
The port of Iloilo..	Long. 128° 47′ 2″ E. from San Fernando; long. 1° 37′ 24″ E. from Manila; lat. 10° 41′ 51″ N.	....do	....do	6	240	6	7. 500	
The Isle of Mactan.	Long. 130° 6′ 10″ E. from San Fernando; long. 1° 27′ 22″ E. from Manila; lat. 10° 20′ N.	....do	....do	7	240	7. 60	12	
The port of Taal...	Long. 126° 19′ E. from San Fernando; long. 50′ W. from Manila; lat. 16° 6′ N.	....do	....do	7	240	6	24	
The port of San Fernando.	Long. 126° 30′ 15″ E. from San Fernando; long. 35′ 45″ W. from Manila; lat. 16° 36′ 45″ N.	....do	....do	6	240	6	9	
The Isle of Canaway.	Entrance to the canal of San Tuanico.	....do	....do	6	240	6	10	
The port of Jolo....	On the pier	....do	....do	6	240	.....	.....	The same system of apparatus as at Dagupan, Dapitan, etc., and is found arranged over a small octagonal castle, painted white and gray.
The port of Princesa.	At the entrance to the port	....do	....do	7	240	.....	.....	Same system as above. The house of the light-keeper is brick, painted white.
Ponape (Carolinas).	....do	....do	....do	6	240	.....	.....	Same system as above. The house of the light-keeper is of wood.
Yap (Carolinas)....	....do	....do	....do	6	240	.....	.....	Same as above.
Light-house—								
On the south dike (Manila).	On the south dike at the mouth of the river.	Ordinary lantern	Fixed green	1	300	4	5. 900	The apparatus is mounted on a trestle with four iron feet, mortised into the brick work of the parapet.
Of the port of Zamboanga.	On the pier	....do	Fixed white	8	360	13	.....	The tower is of wood with square base.
Bearing from port of San Fernando (Union).	....do	....do	Fixed red	.....	.....	.....	4	The apparatus is mounted on an iron crane, supported by a column of brick 2 metres high.
Of Point Sangley (Cavite).	Cañacao Point	....do	Fixed white	.....	360	.....	.....	6 feet of straight cast-iron support the plate upon which the apparatus is mounted.
Of the port of Balabac.	Entrance to the port	....do	....do	6	360	6	44	The apparatus is mounted over a light armor of iron in the form of a quadrangular pyramid. The house is of wood, painted white.

* 628° from N. 50° E. by the W. and S., up to 38° E.

A LIGHTS ON THE COAST OF NE

(Inclosure 1. in Consul Griffins R

AUSTRALASIA.

NEW SOUTH WALES.

REPORT BY CONSUL GRIFFIN, SYDNEY.

COAST AND HARBORS.

he coast line of the colony of New South Wales is so extensive, and tuated so favorably outside the latitude of violent gales and hurri-s, that it is only natural it should possess a large number of har-. Two principal ports are Sydney and Newcastle, but the great : of the trade and commerce is centered at Sydney, Newcastle being l chiefly as a port for the shipment of coal.

he map and tracing (Appendix A) will indicatethe position of the s and lights along the coast of this colony. There are pilot and graph stations at each port. (The tracing has been prepared spe-y by the colonial architect for this report.)

he harbor of Sydney is called Port Jackson, and is one of the largest finest in the world. It has often been compared to the Bay of les and the Gulf of Genoa, but the comparison is scarcely just, as it ithout the grand mountain scenery characteristic of the latter es. The Sydney harbor, however, has a beauty peculiarly its own. entrance to it lies between two perpendicular points, the North South Heads, through a precipitous wall of rock on either side of itish sandstone formation, which runs southward for about 9 miles, d on top, bare of trees, and of an elevation above the sea of about eet, and northward sufficiently far to make it clear whether the land is to the north or south of the entrance. Within and almost in of the entrance is a point called Middle Head, so placed as to pre-the gateway from being seen. The entrance between the North and h Heads, although nearly a mile in width, so deceived the great gator, Captain Cook, when sailing along the coast, that he did not it worth while to lower a boat to explore it, but proceeded on and ed at Botany Bay, thus losing the honor of being the discoverer of ney Harbor.

rt Jackson is, in fact, a succession of bays and inlets into which ral rivers empty themselves, and so completely encircle the city dney that its very heart can be reached from the ocean. The or contains 12 square miles of deep water, and vessels of the largest can enter it at all stages of the tide. The trade of Sidney is larger that of any other city of Australasia.

The tonnage of vessels arriving and the value of the imports and exports at Sydney and Newcastle during the years 1887 and 1888 will be seen from the following return:

Year.	Sydney.			Newcastle.		
	Vessels entered inward.	Imports.	Exports.	Vessels entered inward.	Imports.	Exports.
	Tons.			*Tons.*		
1887	1,483,045	£15,220,305 ($74,069,614)	£11,774,130 ($61,298,804)	566,702	£731,796 ($3,804,610)	£1,788,292 ($8,702,723)
1888	1,692,268	£17,425,483 ($83,800,869)	£15,747,725 ($76,636,304)	633,119	£758,092 ($3,689,256)	£2,067,460 ($10,352,992)

The photograph view and map of Sydney show the entrance to the harbor.

The entrance to Newcastle harbor, 60 miles to the north of Sydney, at the mouth of the Hunter River, is regarded as dangerous in ESE. stormy weather, but large sums have been expended in erecting breakwaters and in other improvements. Dredging operations have been conducted successfully. The wharf frontage is 8 miles in length and vessels drawing 22 feet of water can lie alongside. The hydraulic steam cranes in use there are of the latest patterns.

Between Sydney and Newcastle there are other harbors; that at Lake Macquarie, 45 miles from the north head of Port Jackson harbor is suitable for medium sized vessels. The entrance has been deepened by the construction of extensive dikes and training walls. Lake Macquarie, it is thought, will in the near future become a very important shipping port from the fact that it is the natural outlet by sea for the produce of immense coal fields now being developed. Another is the Broken Bay harbor, about 16 miles northward of Sydney. The bay forms the outlet for the Hawkesbury and other rivers and opens into numerous and spacious inlets, on one of which is situated the rising town of Gosford, the center of a considerable shipbuilding interest.

To the north of Newcastle there are harbors at Port Stephens and at or near the entrances to the rivers Manning, Hastings, Macleay, Nambucca, Clarence, Richmond, and Tweed. The trade at these ports consists principally in the export of maize, sugar, wool, and minerals.

Following the coast line still further north, in the colony of Queensland may be mentioned the harbors of Moreton Bay (Brisbane), Maryborough, Rockhampton, Burnett River, Port Curtis, Port Denison, Mourilian, and Thursday Island in Torres Straits, while the Carpentaria Gulf has several harbors which will compare favorably with those in the more cool southern latitudes.

Turning to the southward from Sydney is the harbor of Botany Bay, not used now, chiefly on account of its proximity to Sydney. It is from Botany Bay that the submarine cable is laid which connects New Zealand with Australia. The harbor of Wollongong, still further south, is rapidly rising into importance since the government of the colony have constructed an artificial harbor and erected a breakwater with steam cranes and other appliances for the use of the colliers frequenting the port. This and Kaima are the ports from whence the coal out of the vast measures to the south from Sydney reaches the markets. Twenty-nine miles from Wollongong is the port of Kaima. Though at present a small haven, it promises in the near future to become a place of considerable importance. It is situated in the beautiful Illawara district,

celebrated for its exports of dairy produce. Extensive coal mines are being opened up in the immediate neighborhood. A breakwater has been built by the colonial government and a basin 600 feet long and 400 feet broad, with a depth of 18 feet of water at neap tides. Next in order comes Jarvis Bay harbor. This is, perhaps, with the exception of Port Jackson, Sydney, the most perfectly protected anchorage in Australia. It is superior to the latter harbor in that a fleet of ironclads, of the largest size can enter in any weather and anchor in from 5 to 6 fathoms of water, close to the shore, where unfailing supplies of fresh water can be obtained, and in 11 fathoms of water 1 mile from the south beach of the harbor. There are other harbors in New South Wales which will become better known when the country is more thickly settled, but with the exception of those already named none of them can be regarded as of particular importance until Melbourne is reached on the coast of the colony of Victoria.

PILOTAGE.

Pilotage is compulsory at all the ports of entry in New South Wales, except—

(1) For foreign men-of-war.

(2) For vessels in distress which pay one-half rates.

(3) For vessels commanded by masters who have passed satisfactory examinations before the marine board, Sydney, and are licensed to pilot ships under their command.

The pilotage regulations make no other discrimination and are as applicable to British and colonial as to foreign vessels. The rates of pilotage are fixed at 4*d.* (8 cents) per register ton, payable to the harbor master. It is provided that the amount of such rate shall not, in any case, be less than £2 10*s.* ($12.16) per vessel at the ports of Sydney and Newcastle, and £1 5*s.* ($6.08) at any other port. These rates are collected both upon arrival and departure of the vessel. Vessels compelled to return to port after having put to sea are classed as vessels in distress and pay only one-half the usual rates.

The sections of the navigation act bearing on pilotage rates are as follows:

There shall be payable and paid at every port or place within the jurisdiction at which there shall be a pilot establishment a pilotage rate upon every ship except as hereinafter excepted of 4*d.* per ton on her arriving at and on her departing from such port or place and one moiety of such rate in case of her being compelled to return into such port or place after having put out to sea or in case of her being compelled to put into such port or place through stress of weather or for repairs. Provided that in respect of any such ship the amount of such rate shall not in any case be less than £2 10*s.* for the port of Sydney or Newcastle nor less than £1 5*s.* for any other port or place within the jurisdiction. (35 Vic. No. 7, sec. 54.)

Every registered ship, whether propelled by steam or otherwise, the master of which possesses a pilotage certificate, and every such ship engaged in the whaling trade shall, except in cases where the master thereof shall actually employ the services of a pilot, be exempt from pilotage, and every such ship shall from the time of her approaching within 3 leagues of such port or place as aforesaid up to the time of her anchoring keep flying such distinguishing flag as the marine board shall for that purpose direct. And the master of such ship shall possess and shall show to the collector or other authorized officer at such port or place if required by him the certificate of pilotage which he is required to possess under this act. (35 Vic. No. 7, sec. 56.)

Pilotage rates in Queensland and some of the other Australasian colonies are slightly higher than in New South Wales. At the ports of Queensland all foreign vessels are exempt from paying pilotage rates but pay on all passengers and cargo landed or shipped the following rates: 1*s.* 6*d.* (37 cents) for every ton of cargo, for every passenger, and for every horse or head of *horned cattle*,; 2*d.* (4 cents) for every sheep.

HARBOR REMOVAL DUES.

Besides pilotage rates vessels are required to pay what are called berthing or harbor removal dues in New South Wales, and indeed in all the principal ports in these colonies.

The authority for levying such rates and the schedule of the dues is thus laid down in the navigation act:

Whenever any ship shall arrive at any port or place within the jurisdiction, the harbor master of such port or place shall appoint the place where such ship shall cast anchor, and as often as the master of such ship shall be desirous of removing the same from one place of mooring or anchorage to another, such master shall notify to the harbor master his desire and the said harbor master shall with all convenient speed, unless he see good and sufficient reason to the contrary, direct the removal thereof, and if the removal is effected by any officer of the harbor department for every such service so performed, such harbor master shall be entitled to receive the several fees and charges set forth in figures in Schedule H, and the amount which shall be so collected by the said harbor master shall be paid into the treasury to be applied as hereinafter directed. (35 Vic. No. 7, sec. 115.)

SCHEDULE H.—*Harbor removal dues.—A table of the dues payable for removing ships from one place to another.*

	£	s.	d.
For any ship not exceeding 300 tons	1	0	0
Exceeding 300 tons and not exceeding 400 tons	1	5	0
Exceeding 400 tons and not exceeding 500 tons	1	10	0
Exceeding 500 tons and not exceeding 600 tons	1	15	0
Exceeding 600 tons and not exceeding 800 tons	2	0	0
Exceeding 800 tons and not exceeding 1,000 tons	2	10	0
Exceeding 1,000 tons	3	0	0

No foreign flag enjoys special privileges in respect of pilotage and harbor rates and dues.

LIGHT DUES.

Light dues at the rate of 4*d.* (8 cents) per register ton are collected from all vessels half yearly; This half yearly charge exempts the vessel from further payment at any other port or place in the colony. There are exemptions for vessels engaged in the whaling trade and those compelled to put into port from stress of weather or to repair damages.

The dues are collected without any other discrimination from all vessels, whether propelled by steam or sail, whether employed in the coasting or foreign trade or whether sailing under the British or any other flag and whether laden or in ballast. Light and harbor dues are collected through the custom-house authorities either from the masters of vessels or from their owners ar agents.

Foreign men-of-war are not charged light or harbor dues.

The section of the navigation act dealing with this impost is as follows:

There shall be payable and paid at every port or place as aforesaid at which there shall be a pilot establishment upon every registered ship whether propelled by steam or otherwise (vessels employed in the whaling trade excepted), a half-yearly harbor and light rate of 4 pence per ton. And the payment of such half-yearly rate shall be made on or before the the 30th day of June and the 31st day of December in each year to the collector of customs at such port or place. And such half-yearly payment in respect of any ship at such port or place shall for the period for which the same shall have been made exempt such ship from any further charge for harbor and light rates at any other port or place as aforesaid where tonnage dues are now or may hereafter be leviable. Provided that no harbor or light rate shall be levied on any ship compelled to put into any such port or place by stress of weather or to repair damages. (35 Vic., No. 7, sec. 55.)

Light dues have been abolished in the colony of Queensland.

LIGHTHOUSES AND LIGHTS.

The "commercial code" is used at the pilot stations within this colony. The whole of the coast line of New South Wales from Cape Howe to Danger Point is well lighted. There are lights at all the principal points and places, together with pilot and telegraph stations. Wherever there is a pilot station the port is a port of entry.

The lights, in their order from South to North, are:

Green Cape: latitude 37° 15′ 30″ S. and longitude 150° 4′ E. A first order dioptric light, revolving every minute, flashing white, visible 19 miles (near here the *City of Sydney* on 7th of November, 1862, and still later on 20th of May, 1886, the *lymoon*, were wrecked, the last named being attended with the loss of 65 lives); 144 feet above high water.

Twofold Bay: (Eden). A red harbor light, on Point Lookout; a light-house building, wood, painted white, 38 feet high, fixed red light, visible 7 miles; 140 feet above high water.

Montague Island: A first-order light, fixed and flashing white, exhibiting the following characteristics in one minute of time: Fixed, 30 seconds; eclipsed, 12⅔ seconds; flash, 4⅔ seconds; eclipsed, 12⅔ seconds; visible 20 miles; 250 feet above high water.

Ulladulla: A white light, fixed, exhibiting on Warden Head; visible 12 miles.

Jarvis Bay: Light-house 3 miles south of entrance; tower white, exhibiting a white, red, and green light, flashing alternately every half minute. White light visible 18 miles, red and green 14 miles; 224 feet above high water.

Shoalhaven: A fixed red light, visible between the bearings of NNW. to E. for a distance of 8 miles.

Kaima: A fixed green light on South Head, visible 8 to 12 miles; a red danger light, also a small green light on the breakwater, visible 2 to 3 miles.

Wollongong: A fixed white light on the end of the breakwater, visible 10 miles, between the bearings of SSW. and W. by N. ½ N. 56 feet above high water. A fixed green light is exhibited from the northeast side of the light-house tower when it is dangerous for vessels to enter the harbor. Two leading lights, red when in one, bearing south, lead into the harbor.

South Head Port Jackson (Sydney): Macquarie light-house. An electric, first-order, sixteen-sided dioptric, holophotal, revolving white light, attaining its greatest brilliancy by a flash of 8 seconds in every minute. Tower white, visible 25 miles; 344 feet above high water.

Hornby Light on Inner South Head, (Sydney): A fixed white light. Tower painted red and white in vertical stripes; visible between the bearings of NW. and SSW. 15 miles; 60 feet above high water; within the heads on Fort Denison or Pinchgut Island, a red harbor light is exhibited to guide steamers and coasters. Ships from foreign ports can not pass this light until boarded by the port and health officers.

Broken Bay: At Barranjoey, the inner south headland of Broken Bay, a second-order fixed dioptric red light, visible 15 miles between the bearings of NNW. and SW. ½ W., 371 feet above high water.

Newcastle: At Nobby Head a fixed white light visible 18 miles between the bearings of N. by E. ½ E. and SW. by W.; 115 feet above high water; and a fixed red light on the breakwater extending from Nobby Head eastward, visible between the bearings of NW. by W. and E. by N.

Stephens Point: A revolving white and red light, alternately every minute; visible 19 miles; 126 feet above high water. Also a fixed light, bright to seaward, on Nelson Head, to guide vessels running during night time to Port Stephens.

Sugar Loaf Point, called also Seal Rocks: A first-order revolving white light, flashing every half minute; visible 22 miles. A fourth-order fixed green light is shown from the same tower but below the revolving light visible 3 miles; 258 feet above high water.

Crowdy Head: A fourth-order fixed white light showing red over the Mermaid Reef, visible 11 miles.

Tacking Point: A fourth-order fixed white light, visible 12 miles.

Smoky Cape: A first-order revolving white light (erected in 1889), exhibiting triple flashes in rapid succession in groups at intervals of half minute, visible 29 miles; 450 feet above high water. A fixed red light is shown below the white light on same tower, covering a danger (Fish Rock), visible about 3 miles.

South Solitary Island: A first-order revolving white light, at intervals of half minute, visible 19 miles; 192 feet above high water.

Clarence River: On South Head, a fourth-order fixed white light, visible 10 miles.

Richmond River: On North Head, two fourth-order white lights, visible 10 miles.

Fingal Head: A fixed white light, visible 8 miles.

TONNAGE DUES.

There are no tonnage dues collected from vessels of any kind at the ports of New South Wales other than those classed as pilotage, harbor, and light dues.

QUARANTINE.

No precise rules for the practice of quarantine have been officially promulgated. The board of health deem it scarcely possible to frame any as distinct from laws, on the one hand, and from mere staff regulations on the other. The practice pursued is definite, however, and it is based upon the same reasons, it is said, that lead the National Board of Health of the United States to frame their definition of rational quarantine. Thus, for example, vessels which arrive having, or having had during the voyage, cases of scarlet fever, measles, diphtheria, etc., on board, are staid at the boarding station by the assistant health officer; the health officer is consulted, and he directs that the patients shall be removed for isolation, and that such disinfection as seems necessary shall be done before the city is approached. But should an immigrant vessel come in under similar circumstances (she being a vessel chartered by the Government and carrying the immigrants entirely or partly at the expense of the Government) she is ordered to quarantine; all hands are landed and detained, and the usual complete disinfection is done. When vessels arrive from ports which have been proclaimed by the executive government infected with smallpox, but having, or having had during the voyage, no case of the disease on board, they are submitted to special inspection, and, if necessary, cleansing, but they are not detained (exceptions to this are such vessels arriving from ports in China and carrying large numbers of Asiatics; and it has been found safest to detain them for twenty-one days, or for the completion thereof dating from the time of sailing from the infected port).

When vessels arrive having, or having had, a case of smallpox on board during the voyage, they are considered to be "infected with smallpox," and all persons on board are liable to be detained for twenty-one days from the time of leaving the ship. But where individual cases occur, this term may be reduced by successful vaccination, so that release is granted provided that fifteen days have elapsed since the operation was performed (the case of the United States mail steamer *Mariposa*, February 10, 1888, shows how this rule works). Inclosure 1 is the report of the board of health, by their principal medical officer, on the case. Similarly, persons successfully vaccinated or revaccinated at quarantine may be released after fifteen days instead of twenty-one. Vessels arriving from ports proclaimed infected with cholera are dealt with as mentioned in the case of smallpox; but no ship bearing a case of cholera has arrived here of recent years.

Diseases actually quarantined have been cholera, smallpox, dengue fever on one occasion only, and the less important (or rather already endemic) zymotic diseases; but the last only as mentioned above in speaking of immigrant vessels. The principal quarantine act, 3 William IV, No. 1, was framed with cholera especially in view, but that disease has not been brought to this port for many years. Yellow fever would doubtless be quarantined if brought here.

Duration of quarantine for persons who arrive in vessels infected with smallpox is twenty-one days, subject to abatement for successful and recent revaccination as already mentioned, the time dating from leaving the vessel. Vessels are held for delivery at the end of thirty-six hours, but delivery is seldom accepted then. As to the duration of quarantine recommended for other diseases, reference may be had to the transactions of the Australasian Sanitary Conference of Sydney, in September, 1884, copies of which I forward under separate cover, per book post.

All expenses of detention fall upon owners. Rations and service are provided or paid for by owners, as well as material used in disinfection and any Government material it may be necessary to destroy at the end of the quarantine. Expenses of lodging and equipment, etc., are borne by the Government, these being provided by a permanent staff and establishment.

In the matter of quarantine the authority of the parliament of New South Wales is paramount within the colony, and all quarantine measures are taken under immediate sanction of the Executive Government. Powers to enforce quarantine are conferred by the acts of parliament 3, William IV, No. 1 (1832), and by the amending acts 5 Victoria, No. 12 (1841), 13 Victoria, No. 35 (1849), and 17 Victoria, No. 29 (1853), 45 Victoria, No. 25 (1851.) Copies of all of which acts I forward under separate cover, per book post.

The president of the board of health, as health officer for Port Jackson, is charged with the execution of these acts over the whole province; he directs the action which police magistrates, and justices at ports where no health officer has been appointed, are empowered to take, under 13 Victoria, No. 35, and directs health officers where these exist at country ports. He is an officer of the treasury.

Three able papers, written by Dr. J. Ashburton Thompson, chief medical inspector of the board of health, Sydney, to whom I am indebted for the information for my replies to the interrogatories on quarantine in this colony, are appended. [Inclosure 2.] These papers are valuable if only from a medical point of view, as furnishing a fair idea of the principles which govern the practical work of quarantine in New South Wales.

My thanks are due to the marine board, the board of health, and the collector of customs, Sydney, who have placed at my disposal valuable publications and information for this report.

G. W. GRIFFIN,
Consul.

UNITED STATES CONSULATE,
Sydney, September 12, 1889.

REPORT OF THE BOARD OF HEALTH, SYDNEY, BY THEIR PRINCIPAL MEDICAL INSPECTOR, ON THE OUTBREAK OF SMALLPOX ON BOARD THE UNITED STATES MAIL STEAMER MARIPOSA.

[Inclosure 1 in Consul Griffin's report.]

FEBRUARY 9, 1888.

The *Mariposa* dropped anchor in quarantine waters about 6:20 a. m. I boarded her about 8:15 a. m., and the following is an account of her case.

PREPARATION FOR THE VOYAGE.

Smallpox having made its appearance to some small extent in San Francisco, the owners directed every member of the crew from the captain downwards to be revaccinated, and this was done. A large stock of vaccine was taken on board for the passengers.

HISTORY OF THE VOYAGE.

The *Mariposa* sailed from San Francisco on January 14, carrying a crew of one hundred and three: fifty-three saloon, and fifty-eight steerage passengers. On January 18 John Pope, aged eighteen, unvaccinated, traveling with his father in the steerage, reported himself sick. He continued to complain of indefinite symptoms until January 21, when he seemed quite well again. On this date Honolulu was reached. The ship lay at a wharf; forty-four passengers for the port were landed and quarantined, but were not allowed to communicate, San Francisco being an infected port. On the 22d the surgeon's attention was again drawn to Pope, and he recognized the rash of smallpox upon him; he at once isolated him. The voyage was continued the same day, and Auckland was reached February 3. The health officer was repeatedly asked to remove the patient, but he declined to take any except passengers for the port. He did not board, but he sent the doctor some vaccine. Twelve passengers were landed at the quarantine station, with two stewards to wait on them, the voyage being continued on the 5th. The vessel arrived here having on board twelve saloon passengers, forty-three steerage passengers, and one hundred and one officers and crew.

STEPS TAKEN ON DISCOVERING THE CASE.

On this vessel the saloon quarters are forward, and the third class occupy the after part of the ship below and on deck. The patient had a bunk under the quarter hatch between decks. He was removed, with his father and bedding, to a cabin in a deck-house which occupies a great part of the after deck space, and which is divided on both sides into numerous cabins. He was placed in the middle cabin on the starboard side; the other cabins were emptied. A part of the deck extending in front of five cabins was inclosed by two canvas screens 8 or 9 feet high, which ran at right angles from the deck-house to the side. Two other screens were fixed at a distance from those mentioned of about 10 feet, thus marking off a neutral ground. Supplies were set down by a steward, and taken in from the neutral space by the patient's father. The surgeon changed his clothes to visit the patient; and it was not necessary to visit him very often because his case was mild, the eruption being perfectly discrete. His cabin was kept freely served with carbolic acid, and a saturated solution of green copperas was kept in the urinal and was poured on the dejections before they were cast overboard. China vessels used by him were received afterwards into a bucket of solution of carbolic acid of 1 in 30. After his removal the steerage was fumigated in the following way: a solderer's stove was taken below, and 5 pounds of sulphur with a proportion of antimony were burned in it; the hatches were closed.

In half an hour a man entered and removed the stove; the hatches were again closed for several hours, and afterwards the place well washed down. This fumigation and cleansing were repeated after the ship left Auckland. Special attention to cleansing of other parts of the vessel was paid, and the disinfectants usually served out were more liberally employed. The steerage passengers had been especially exposed to infection during the four days that Pope's case remained undiagnosed. It was deemed advisable therefore to keep these separate from the other passengers and from the crew as far as possible; and the construction of the ship allowing of it, they were barricaded on the port side of the deck-house in which the patient was, the starboard side of which was already closed.

INSPECTION OF THE SHIP.

I found all parts of this vessel extremely clean, and the measures of isolation as already described. All hands were well.

REMOVAL OF THE PATIENT.

At about noon the patient and his father were lowered over the side opposite their cabin in a slung chair, and received in the skiff belonging to the *Faraway* under my supervision. They were then taken on board the *Faraway*.

VACCINATION AND REVACCINATION.

As soon as the nature of Pope's case was ascertained the captain ordered the crew to be again revaccinated, and he exhorted the passengers also to submit. In the saloon no opposition whatever was experienced, but hearty coöperation; however, one passenger was passed over partly on account of his age, and partly because he alleged inoculation in Scotland 54 years ago. In the steerage eight persons declined, four individuals, and four members of one family. But there were also five persons who were not done under a misapprehension. They had quite recently crossed the Atlantic, and showed Dr. Giberson the tickets guaranteeing their protection by vaccination, signed by a surgeon who examined them, without which the transatlantic companies refuse to embark passengers for the States. Dr. Giberson took these as evidence of recent successful revaccination; but they only vouch for the presence of scars of vaccination done at some time or another. I examined and noted the state of every person as to vaccination. I append a list of the one hundred and fifty-six which shows what this was. Very few of the vaccinations of the crew done before starting were successful. There are, however, seventy-four persons who have been successfully revaccinated either at that date or more than fourteen days ago by Dr. Giberson on board; and these I recommend for release as soon as the necessary washing and disinfection of clothing can be done. There are sixty-one who have been more recently revaccinated (their earlier revaccination having failed), and these I recommend for inspection on the 16th instant, thereafter to be discharged as their cases are found successful at the 15th day from vaccination. There are nineteen persons who, for one or other reasons, have not been successfully revaccinated within my knowledge; and these I recommend should have revaccination now again offered; and that any who are unsuccessful should be detained for the full period of twenty-one days. Lasty there are the two Popes on board the *Faraway*, making up the total of one hundred and fifty-six persons.

I beg leave to express the opinion that in this case everything was done which can be done by owners, surgeon, and master under similar circumstances.

J. ASHBURTON THOMPSON, M. D.

DR. THOMPSON'S PAPERS.

[Inclosure 2 in Consul Griffin's report.]

1. ENGLISH SANITARIANS AND AUSTRALASIAN QUARANTINE.

SYDNEY, *August* 15, 1886.

In the issue of the London Lancet for the 5th of June, the course taken by the Government of Queensland in the recent case of the *Dorunda* is unfavorably commented upon. Similar opinions were expressed in these columns at the time. But the Lancet goes farther, and seizes the opportunity to condemn the scheme of quarantine officially adopted by Australasia in unsparing language, illustrated with an offensive

and contemptuous comparison. The gravaman of the article lies in the statement that the Australasian plan shows but insignificant progress towards medical inspection as understood in England. This is the old story. Medical inspection suits England's circumstances of climate, population, and traffic; and English sanitarians have ever shown themselves unable to understand that it may possibly not be the best plan for some other countries, different though their circumstances may be. This statement seems paradoxical when made of an eminently logical people; but the explanation is that, although the English school is early taught that without medical inspection scientific hygiene is but a name, very few of its members have taken the trouble to think the subject out for themselves. "Medical inspection" is for the majority a mere shibboleth; and, in consequence, the bare mention of the word "quarantine" acts upon them as the proverbial red rag to a bull. But recrimination is fruitless, else the purely fictitious character of English clean bills of health would furnish an easy text. The party referred to may fairly be supposed willing to admit that medical inspection is not good merely because it is English; and even, under pressure, that quarantine is not bad merely because it may be stigmatized as Turkish. Rather, then, let the matter be examined rationally, and with more philosophy than the Lancet could lay hands on last 5th of June.

Physically, Great Britain is an island; epidemiologically she is a part of the continent of Europe. Her sea belt, which in time of war is a real defense, is of no more significance in time of epidemics than a geographical frontier line drawn upon a map. In practice she fears the importation of but one disease; and that one is cholera, which experience has shown, again and again, no measure resembling quarantine can prevent from spreading between contiguous countries. All other epidemical diseases of which her climate allows and which other nations fear, are already there; familiar, household, enemies. Farther, were it possible that some other disease of locality, as for instance, yellow fever, could seriously threaten her, her ocean traffic is so great that it would be practically impossible to inspect and cleanse every incoming vessel; or were detention for any disease thought expedient, yet it could never be perfectly carried out, because of the unmanageable numbers of persons that would soon accumulate. Lastly, she has an internal sanitary service already considerably advanced towards efficiency. These are the chief points in England's circumstances and her practice is suited to them. Her sanitarians long ago determined to recognize the position of their island as practically a continuation of the adjacent continent; to deal with incoming vessels exactly as they would deal with houses; and to remove from them only the sick, and such infection as could be cleansed away. They decided to let all persons disperse at once who, at the time of inspection, showed no sign of disease; and, if any should fall ill later among the general population, to trust to the internal sanitary service of the country to detect and isolate them before any harm was done. This is medical inspection. It need scarcely be pointed out that it is without characteristics, a mere negation, a minus quantity; and that any success England may meet with in combating imported epidemic disease will be due, not to her plan of dealing with infected vessels, but to her internal sanitary service. But Australasia's circumstance, with an exception which may be referred to later, are entirely different. They are different in that no ship can reach her shores but after a prolonged voyage; in that her sea-borne traffic is manageable; in that she fears other, and in some cases etiologically different diseases; in that her climate is different; in that her internal sanitary administration is but rudimentary at the best, containing the seeds of excellence doubtless, but as yet far from flourishing. These circumstances clearly enough discriminate her case from England's, and oblige her to adopt a different practice. The Australasian Sanitary Conference of Sydney, 1884, formulated the plan theretofore followed; it declared that the true function of quarantine is, not the impossible task of invariably excluding infectious disease, but to diminish the entering number of infectious points; that infected ships must therefore be quarantined, but immediately cleansed, and with their cargoes released; that persons and luggage must be landed, and at once disinfected; and internal sanitation being imperfect, that the former must pass a reasonable incubation period in detention, having been first isolated from each other in three groups, consisting of the sick, the suspected, and the apparently healthy. This is the Australasian practice, and being based upon rational grounds afforded by a scientific consideration of her condition, is not to be shaken by a declamatory criticism. If proof, other than is here given, were asked, it might be found in a farther decision of the conference that, when circumstances are similar to England's, practice should be similar too. When the imported disease is scarlet fever or measles, which are already common enough here, it recommended that simple medical inspection should be used. On the other hand, England herself is obliged to adopt this very same practice of quarantine as soon as her circumstances begin to resemble those of other nations, notwithstanding the admonitions and warnings against it which she ventures so obstinately to address to the rest of the world. For several years past the Crown has felt unable to enforce the

vaccination laws in the city of Leicester; and the population has, in consequence, fallen into a state of imperfect vaccination which probably nearly resembles the normal state of the people of Australasia. Very wisely the local authority considers that it can no longer venture to trust medical inspection to save their district from an epidemic; and it has, therefore, reintroduced quarantine. Not the sick alone are segregated, but the apparently healthy too; and the latter pass the incubation period in detention. We are far from attempting to saddle English sanitarians with the responsibility of a course which, indeed, is due to the sagacity and self-reliance of an individual medical officer of health; but if they are serious in their advice to other nations to adopt medical inspection at all times and under all circumstances here surely is an unexpected and unique opportunity for them to show that they have the courage of their opinions. Will the Lancet venture to recommend it? Or must we for the future, if we choose to borrow from that journal's own peculiar vein of humor, refer to it as "our Turkish contemporary."

In short, the Australasian plan may not so properly be compared to that "to which the Turk clings with so much tenacity," as to that upon which the American insists with so much reason. It is indeed on all fours with the American plan; for that also, being quarantine in general, admits medical inspection upon occasion. America's occasion, however, is the pressure of sheer weight of traffic, and none other. For England, medical inspection alone is possible; it is fortunate, therefore, that under her circumstances it is quite the best plan too. But we will be more than rational and just; we will yield to an impulse which, under the circumstances is generous, and will admit that it will be best for all the world some day. It will be best when the internal sanitation of countries is perfect, and when every port sanitary authority guards the golden gates of a city of hygeia. But the time is not yet even for England. Circumstances have forced her to adopt prematurely a practice which demands for its logical justification a far more perfect state of internal sanitation than even she possesses. Very well she does to make a virtue of necessity; but trebly ill when she represents the gloze as a virtue itself, and recommends her scheme to others as being the outcome of superior science alone.

J. ASHBURTON THOMPSON.

2. LIMITED QUARANTINE *v.* MEDICAL INSPECTION.

SYDNEY, *July*, 1887.

It is not very long since the London Lancet* took advantage of the outbreak of cholera on board the *Dorunda* to condemn in forcible terms the quarantine which was imposed upon that vessel. Our contemporary, promulgating the English dogma of medical inspection, compared our Australasian method to the unscientific practice followed by the heathen Turk; and we ventured, as our readers will remember, to condemn the custom of attempting to thrust down other people's throats a course of action which the English adopt mainly because their circumstances constrain them.† Notwithstanding the *ex cathedrâ* tone of the article referred to, we have expected some comment upon the recent serious outbreak on board the mail steamer *Preussen*, for it must surely appear to our contemporary a remarkable circumstance that this vessel, which arrived at Adelaide after losing a passenger by smallpox, should have been so effectually dealt with by quarantine that not a single case of the disease occurred among the shore population. The *Preussen* touched Australia December 15, 1886, with 694 persons on board. She landed 27 passengers and 2 stewards at Adelaide, 230 at Melbourne, and at Sydney 312 plus a crew numbering 123; and among these parties, respectively, there broke out 5 or 6 cases, 29 cases, 64 cases, and 15 cases of smallpox, several of which ended in death. There was no communication of disease at quarantine from persons there falling sick to others there confined. After an interval from the occurrence of the last case, which did not exceed 21 days, those who had escaped attack were released; and they were set at liberty among populations which in no instance can be said to be well vaccinated, and at Sydney are better described as unvaccinated. Now, under medical inspection, 112 of these cases of smallpox would have been scattered among the partially protected populations referred to; for only one case of sickness among the 694 existed when the *Preussen* reached Sydney, her port of destination. Or, if the processes of cleansing which medical inspection prescribes should have occupied 2 or 3 days, yet at the end of that time but 9 more sick would have been found; and the rest, of whom more than 100, although in apparent good health, were really incubating smallpox, would have been discharged. But had this course been pursued it can not be doubted that there would have been at least some communication of disease to the shore population, and, in all probability, a very widespread epidemic would have arisen. South Australia, Victoria, New South Wales, and Queensland would all have suffered, for those who fell ill were bound for all these colonies.

* Lancet, May 5, 1886. † Gazette, August 15, 1886.

In the Lancet for May 14 is a long editorial item on this subject, which, while it is incorrect as to several matters of fact, is not quite perspicuous. Its gist, however, appears to lie in the following sentence: "Experience in Europe has shown, whatever the disease to be dealt with may be, that true preventive measures are far more neglected in countries resorting to quarantine than in those who [*sic*] do not enforce it, and the extent of neglect may often be largely measured by the tenacity with which the quarantining of sick and healthy alike is maintained." The analogy here drawn can not be accepted. Comparisons between Europe and other parts of the world have fascination for the Englishman, who too often seems never to have passed the limits of his own tight little island; but they must not be pushed too far where historical and physical considerations are involved, on pain of confusion. In fact quarantine is not here relied upon to the neglect of true preventive measures. The case is perfectly simple. To speak, for convenience, only of the four colonies already mentioned, in two of them vaccination is compulsory; in two it is voluntary and gratuitous, but practically neglected by the people. In season and out of season the health authorities of the unprotected parts, and this journal, are instant in urging the importance of compulsory vaccination; but the people will have none of it. Now, notwithstanding these four colonies cover an immense area, intercommunication is so easy, so rapid, and so clearly a condition of their development, that from the standpoint at present taken up they must be regarded as one country; and, since size is relative to means of travel, as no large country either. Under these circumstances the health authorities have agreed that they can not afford to refer the observation of suspects to the country at large. In practice, isolation is not the best safeguard against smallpox; but, then, half a loaf is better than no bread. The case is similar with cholera. It is enough to say that to furnish all the larger towns of Australasia with pure water and good sewers must of necessity occupy many years. Quarantine, as here understood, is primarily a detective measure, not a preventive measure; so also is medical inspection. But the former is thorough as far as it goes, while the latter is less far reaching, and is only superficial at the best.

It almost seems as though medical inspection had begun to assume in the English mind some of the attributes of a fetich. At all events it is clear that the Lancet, although enjoying the amplest opportunities, has failed to seize the mode and aims of such quarantine as is practiced here, and, as far as possible, in the United States. We therefore recommend for consideration that definition of it which was proposed by the special delegate of New South Wales (Dr. Ashburton Thompson) at the Australasian Sanitary Conference of Sydney, 1884. It runs as follows, and the action defined, being taken only in the case of vessels known to be infected, is called limited quarantine: "The examination conducted to ascertain the presence or absence of the causes of infectious disease, without detention for more time than may be necessary for the discovery and the removal or destruction of such causes."

ASHBURTON THOMPSON.

3. SMALLPOX AND QUARANTINE.

SYDNEY, *January*, 1888.

The engineering inspector under the public-health act of Tasmania has prepared for the chief secretary (and, it may be assumed, by his direction) a memorandum on quarantine. Copies of this document have been widely distributed, and expressions of opinion upon it are invited. The objects of the memorandum are two; to show that the system of defense against sea-borne disease employed in Australasia is useless, and to invite reconsideration of it with a view to the adoption of medical inspection. These objects it is attempted to forward by quotations which show that under certain circumstances English and Indian sanitarians recommend medical inspection and condemn quarantine; by asserting that the Australasian sanitary conference of Sydney, 1884, advocated quarantine (and, by implication, that it condemned medical inspection); and by the remark that the exclusively medical constitution of that conference caused this branch of the science of disease prevention to be considered on medical and etiological grounds, which are said to be "theoretical." They are presently contrasted with what are called "practical" grounds, for which it is proposed to secure regard at any future conference that may be held by composing it "in part, at least, of practical business men."

We do not intend to criticise this communication at length. The respective uses of quarantine and medical inspection have been discussed in these columns sufficiently often of late to render it unnecessary to reopen the subject; and the evil conjunction of stars—or of ministers—by which an inspector of engineering is compelled to assume the rôle of proficient in one of the more recondite branches of State medicine fortunately has no influence to oblige other people to join issue with him. There are, however, certain misstatements in it which should not pass unnoticed, and these we now point out. The resolutions of the sanitary conference are roundly condemned

in this memorandum because, to put it briefly, they are believed to advocate the use of quarantine at all times and in all places as an all-sufficient defense against epidemic disease. But there is no foundation in fact for this view. It is stated clearly enough in the preface to the transactions that the delegates deliberated under the influence of three principles mainly. These are, first, that the only true defense of nations against epidemic disease consists in measures of internal sanitation—that is to say, in the measures necessary to secure pure air, pure water, sound food, and vaccination; secondly, that the ease of communication between the several territories which constitute Australasia renders it necessary to regard them as one country *qua* infectious disease, and that therefore quarantine as between adjacent parts must be condemned and relinquished; thirdly, that community of circumstances binds together the several territories in respect of contagion imported from the outside world, and that consequently a plan should be agreed upon by which uniform practice of the kind of quarantine deemed likely to be useful against it might be secured. In the second place, the protest which this memorandum embodies is addressed equally to New South Wales and to other territories. The occasion of remonstrance is easy to detect. During the recent outbreak of smallpox at Launceston, Victoria and South Australia instituted against Tasmania a quarantine which was marked by all the futile rigor of the middle ages. Her government now complains of this treatment as being useless against disease and disastrous to trade; and in our opinion it has every reason to do so. But what are the facts in the face of which New South Wales is indiscriminately included in this general complaint? They are that, while her government, penetrated as it is with a sense of the soundness of the principles just recapitulated, has ever tried to adhere to the resolutions of the conference, even on this occasion it did not depart from them. Notwithstanding the neglect of vaccination by its people, and the greater risk they therefore ran as compared with the people of South Australia and Victoria, it exercised against Tasmania, as being an adjoining territory, only that very medical inspection which is so ardently advocated in the memorandum.

It is thus by a very curious oversight that the government of Tasmania has neglected to avail itself of some not unimportant support to its present contention which is at its command. It appears, indeed, to be singularly oblivious of the course of affairs abroad, even when they most nearly touch the interests of its people. It seems, therefore, not improper to point out in so many words that while the quarantine between adjacent territories, which it so justly deprecates, was imposed by boards "composed, in part at least, of practical business men," the medical inspection it desires actually was accorded by a health officer whose opinions agree with those expressed by a purely medical conference. But perhaps we understand by the phrase "practical business men" something other than is intended by the government of Tasmania. We therefore conclude by explaining that we take it to signify one who looks to his weapons before joining the fray.

ASHBURTON THOMPSON.

NEWCASTLE.

REPORT BY COMMERCIAL AGENT DAWSON.

PILOTAGE.

Pilotage is compulsory in all cases for vessels of the country as well as foreign vessels, excepting those vessels whose masters hold pilotage or exemption certificates, which they have obtained upon examination after they have been three times in and out of the port of Newcastle. Pilot charges are the same for vessels of the colony as for foreign vessels—4 pence per registered ton each way, in and out. No foreign flag enjoys special privileges in this regard.

Vessels in distress pay one-half the pilotage rate. War vessels pay no pilotage.

LIGHTS AND LIGHT DUES.

In New South Wales light dues are not payable at more than one port during the same voyage. A half-yearly harbor and light rate of 4 pence per ton is payable at any port or place where there is a pilot establishment upon every registered vessel, except vessels employed in the whaling trade.

The dues are payable only where there is a pilot establishment, and wherever there is one of these there is a light.

The light on Nobby's Head, on the southern point of the entrance to Newcastle Harbor, is a bright white fixed light, at an elevation of 115 feet above high-water level, and should be visible at sea, on a clear night, 17 or 18 miles to an observer at an elevation of 15 feet above the sea. Latitude of light-house, 32° 55′ 20″ S.; longitude, 151° 50′ 20″ E.

On a hill back of the town are two fairway lights, red and bright, shown from beacons 221 feet apart, between the Wesleyan and Catholic churches. Direction SW. ½ S. and NE. ½ N.

A red harbor light is exhibited from sunset to sunrise on the southern breakwater at the entrance to the harbor; it is 34 feet above low water, and 261 feet from the extreme end of the breakwater; is visible between the bearings of NW. by W. and E. by N. magnetic.

The breakwater extends 1,300 feet northeast from the base of Nobby's Head, and has on it a powerful bell, which, when sounded in foggy weather, can be distinctly heard 3 miles.

For the North Channel red and bright lights may be seen on the breakwater from beacons 100 feet apart near the Old Bull beacons bearing W. by N. and E. by S.

Red and white lights are also shown on Fortification Hill for the Coal Channel.

A pale green light appears from sunset to sunrise on a pile beacon in 8 feet low water near the northern breakwater. The light rate of 4 pence per registered ton is collected through the custom-house from the shipmaster direct, and there is no discrimination in favor of or against vessels of the United States. The shipping of New South Wales, whether engaged in the foreign or coasting trade, pays the same light-house dues as vessels of the United States.

TONNAGE DUES.

These are collected from all classes of vessels, whether in the foreign or coasting trade, laden or in ballast, but only when requiring a wharf berth for discharging or loading. There is no discrimination in regard to flag, and the vessels of no nationality enjoy any special privileges. Tonnage dues are one-half pence per registered ton net on sailing vessels and one-half pence per ton gross on steamers.

QUARANTINE.

Properly speaking, Newcastle has no quarantine, because, if it is necessary to place a vessel in quarantine more than a day, she is sent to the quarantine grounds at Sydney, 75 miles distant. All vessels visiting the harbor, however, from beyond the seas are required to fly the blue visiting flag, and not to come higher up the harbor than the "Horseshoe" till they have been boarded by the health officer and pronounced in a healthy condition, under a penalty of not more than £20.

The diseases quarantined are smallpox, cholera, plague, scarlet fever, measles, and any infectious disease of a virulent or malignant form. The length of the quarantine would depend on the necessities of the case, probably from 4 to 6 weeks. The ship would have to bear the expense of fumigation and detention.

The general government establishes the quarantine rules and has full charge of the whole matter. The health officer at this port expects a bill to be passed at the next session of parliament establishing a quarantine station at Newcastle.

THOMAS M. DAWSON,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Newcastle, New South Wales, October 15, 1889.

NEW ZEALAND.

REPORT BY CONSUL CONNOLLY, OF AUCKLAND.

PILOTAGE.

Compulsory pilotage is exacted at the ports of Napier, Lyttelton, Dunedin, and the Bluff; not compulsory at Auckland, Wellington, and Nelson. Pilot charges are the same for all vessels of all countries; British, colonial, or foreign are treated alike in this respect. No exceptions are made. No foreign flag enjoys special privileges in this regard.

Vessels in distress pay no pilotage unless the services of a pilot are actually made use of. Foreign war vessels are exempt from pilotage and all other port charges, whether a pilot is employed or not.

LIGHT DUES.

Light dues are payable by all vessels from foreign ports, whether laden or in ballast, as follows: Steamers, 8 cents per ton; sailing vessels, 12 cents per ton; vessels proceeding from one port to another on the coast are charged one-fourth of a cent per ton. Dues are only collected in respect of voyages where a light could be passed; not otherwise.

LIGHTS.

I am unable to obtain reliable information on the subject of lights, consequently can not answer the question in detail. I am informed by the New Zealand government (unofficially) that "the hydrographer to the United States Navy has already published a list of lights and general character thereof on the New Zealand coast." Light dues are charged per ton register, and collected through the custom house. There is no discrimination in favor of or against the United States or any other nationality. New Zealand vessels are charged light dues at exactly the same rates in respect of the same voyages as vessels of the United States or other countries.

NEW ZEALAND LIGHT STATIONS.

Number.		Name.	Location.	Latitude.	Longitude.	Number of lights and relative positions.		Character of light.	Intervals of revolution or flash.
946	North Island.	Cuvier Island.	Eastern end of island, eastern entrance to Hauraki Gulf.	.....	.....	1	.....	Rev.	Every 30 seconds.
965	North Island.	Port Napier..	Outer end of the western pier at entrance to the inner harbor.	.....	.....	2	Vertical, 9 feet apart.	F. red.	
994	North Island.	New Plymouth. (Taranaki.)	On hill near breakwater, and on shore end of breakwater.	39 03 00	174 02 00	2	N. 44° E. and S. 44° W., 167 yards apart.	F. red.	
999	North Island.	Manukau....	South head	.....	.....	2	N. 39° 31′ E.	F. red.	
			North shore of entrance.	.....	.....	3	.....	F.	
1066	Middle Island.	Grey River entrance.	S. side of S. training wall.	42 26 00	171 13 00	1	.....	F.	
1067	Middle Island.	Greymouth..	End of the new wharf in Grey River.	.....	.....	2	.....	F. green.	
1068	Middle Island.	Cape Foulwind.	On cape.....	41 45 40	171 28 40	1	.....	Rev.	Every ¼ minute.

Number.	Height of light above sea level.	Distance visible in nautical miles.	Character of lighthouse or vessel.	Height of tower from base to vane.	Character and order of illuminating apparatus.	Year lighted or altered.	Remarks.
946	390	26	Iron tower; white.	50	—, 1st ord..	1889	Vessels should not round Cape Colville with this light open.
965	21 / 12	.....	White	.....	.....	1889	Visible from seaward between the bearings S. 14° 45′ W. and S. 13° 22′ E.
994	100 / 30	8	Flagstaff and beacon.	.....	—, 5th ord..	1884	High light visible between N. 82° 40′ E. and S. 82° 40′ W., except when obscured by Mahanga and Moturoa islands. In line lead clear to the east side of the breakwater. When prudent to come alongside wharf at night, 2 red lights will be shown, one at end of wharf and the other 300 feet inshore. White over red on lower beacon: "Wait for daylight." Two red lights: "Go on; do not wait."
979	....	8 to 9 / 8 to 9	Leading beacons..	.....	D., 6th ord..	1887	South head beacons in line N. 33° 31′ E. lead in. Steering signals are shown from the semaphore.
1066	.....	12	Mast; white.....	.....	—, 6th ord..	1886	Tidal signals: A red light is shown from the extremity of works on Johnson street wharf extension. Vessels must pass to northward of this light.
1067	.....	.....	.....	.....	.....	1888	Visible from the entrance of the river.
1068	190	19	Wood; white.....	53	D., 2d ord..	1876	

TONNAGE DUES.

Tonnage dues (called port charges here) are collected from all classes of vessels, whether in the foreign or coasting trade, whether laden or in ballast. Charges, however, are in most instances different for foreign trade and coasters. The latter class are charged slightly reduced

rates. There is no discrimination in regard to flag; vessels of all nationalities are treated equally in this respect. Vessels engaged in whale fisheries, yachts, and missionary ships, not trading to or from any ports in the colony and not conveying goods for hire, and vessels in distress, putting into any port through stress of weather or for water or provisions, or to refit, and vessels calling at any port for orders are exempt from tonnage dues (port charges).

QUARANTINE.

The following rules are to be observed by masters of vessels entering any port of New Zealand with infectious diseases on board:

(1) In the daytime the yellow quarantine flag of the international code of signals at the maintopmast head, or such other signal as shall from time to time be fixed by the governor.

(2) In the nighttime the signal shall be a large signal lantern with a light therein, such as is commonly used on board Her Majesty's ships of war, on the same masthead, or such other signal as may be from time to time fixed by the governor.

Following are a list of diseases quarantined: Cholera, smallpox, scarlatina, diphtheria, entric or typhoid fever, typhus fever, and measles. I am unable to ascertain the duration of quarantine for each and from each port. The vessel bears the expense of detention and fumigation as to passengers and cargo, and all other necessary expense incurred by reason of such quarantine.

Quarantine laws, as already stated, are made by the general government, and the rules for the execution of those laws as the occasion may require are made and enforced by the governor of the colony. The general government alone have full power and control over vessels coming from infected ports, or with infectious or contagious disease on board. Municipalities have power to adopt ordinances for the regulation of infectious diseases within their respective jurisdictions, but have no jurisdiction as to the quarantine of vessels entering ports from infected countries or local ports; that power rests in the general government alone.

JNO. D. CONNOLLY,
Consul.

UNITED STATES CONSULATE,
Auckland, September 3, 1889.

VICTORIA.

REPORT BY CONSUL-GENERAL WALLACE, OF MELBOURNE.

Tonnage dues.

	s.	d.
On all ships arriving in any port in Victoria.....per ton..		6

Provided, That no ship shall pay the said duty more than once in any 6 months.

TABLE H.—*Wharfage and harbor rates*

[Applicable to all seaports of the colony.]

Liquids, in bulk:	s.	d.
Tun, butt.....each..	3	0
Pipe or puncheon.....do....	2	0
Hogshead.....do....	1	0
Barrel or quarter cask.....do....		6
Octave, keg, drum, tin, jar, *or other small* single package.....do....		3

	s.	d.
Other goods:		
Case, crate, cask, bale, box, bundle, trunk, bag, keg, firkin, or package measuring—		
30 cubic feet and upwards	3	0
20 cubic feet and upwards to 30	2	0
10 cubic feet and upwards to 20	1	6
6 cubic feet and upwards to 10		9
3 cubic feet and upwards to 6		6
1 cubic foot and upwards to 3		3
Less than 1 foot		2
Steam-boilers, millstones, chains, machinery, railway materials, pig-iron, cordage, oakum, flax, or other fibrous materials, carriages, furniture, and goods not otherwise enumerated ..... per ton..	3	0
Lead, lead piping, iron, iron wire, steel or other loose metal, shot, nails, or metal in casks, cases, or frames ..... per cwt..		3
Sugar, salt, coffee, rice, flour, meal, potatoes, or other vegetables, grain, seeds, malt, hops, or pulse ..... per cwt..		3
Spades, shovels, brooms, forks, frying pans, and small pieces of shaped wood ..... per doz..	3	
Timber ..... 40 cubic or 480 superficial feet..	3	0
Posts and rails ..... per 100..	3	0
Pickets or palings ..... do...	1	0
Shingles or laths ..... per M..	1	0
Oars, tubs, or buckets ..... per doz..		6
Coals, coke, or firewood ..... per ton..	1	0
Slates or bricks ..... per M..	3	0
Empty casks or shooks ..... per bundle..		6

Goods to be rated according to weight or measurement at the option of the harbor trust commissioners for the port of Melbourne, of the collector of customs at any other port of discharge.

Wharfage rates.

[Applicable to the port of Melbourne only under the harbor trust.]

Imports must be described in entries according to the designation and denomination given in the following revised list of headings and wharfage rates must be paid by weight or measurement, as hereunder set out:

	s.	d.
Alkali:		
Soda ash ..... per ton..	3	0
Bicarbonate ..... do....	3	0
Caustic ..... do....	3	0
Crystals ..... do....	3	0
Nitrate ..... do....	3	0
Silicate ..... do....	3	0
Alum ..... do....	3	0
Anchors ..... do....	3	0
Antimony:		
Ore ..... do....	3	0
Regulus ..... do....	3	0
Anvils ..... do....	3	0
Arrowroot in bags ..... per cwt..		3
Asphalt ..... per ton..	3	0
Ax and other handles, loose ..... per doz..		3
Axles and arms ..... per cwt..		3
Axle-boxes ..... do....		3
Bananas ..... per bunch..		1
Bark ..... per ton..	3	0
Bass ..... do....	3	0
Bêche de mer ..... do....	3	0
Black sand ..... do....	3	0
Boilers, steam ..... do....	3	0
Bran ..... per cwt..	3	0
Bricks:		
Air ..... per M..	3	0
Clay ..... do....	3	0
Fire ..... do....	3	0
Broom corn, millet, etc ..... per ton..	3	0

		s.	d.
l	per doz..		6
	per cwt..		3
are	do....	3	0
	do....		3
	per ton..	3	0
c	do....	3	0
	per bundle..		6
	per ton..	3	0
	do....	3	0
	do....	3	0
	per cwt..		3
	per ton..	1	0
	per cwt..		3
	do....		3
	per ton..	1	0
	per cwt..		3
	per ton..	3	0
	per cwt..		3
	do....		3
	per ton..	3	0
	do....	3	0
ron	do....	3	0
	do....	3	0
e	do....	3	0
	do....	3	0
	do....	3	0
	do....	3	0
es	do....	3	0
	do....	3	0
	do....	3	0
	do....	3	0
merated	do....	3	0
	do....	3	0
n," New Zealand	do....	3	0
	do....	3	0
	per cwt..		3
	per ton..	3	0
	do....	3	0
	do....	3	0
holstery	do....	3	0
sugar	per cwt..		3
	do....		3
	do....		3
eas	do....		3
	do....		3
	do....		3
	do....		3
	do....		3
	do....		3
	do....		3
	per ton..	3	0
	do....	3	0
	do....	3	0
	do....	3	0
	do....	3	0
	do....	3	0
	per cwt..		3
	per ton..	3	0
	per cwt..		3
ts	do....		3
	per cwt..		3
	do....		3
g, etc	do....		3

		s.	d.
Iron—Continued.			
Hoop	per cent..		3
Ore	per ton..	3	0
Pig	do....	3	0
Pipes:			
Wrought	per cwt..		3
Cast	do....		3
Plate	do....		3
Rails (railway)	per ton..	3	0
Railway chairs	do....	3	0
Scrap	do....	3	0
Sheet	per cwt..		3
Wire:			
Fencing	do....		3
Telegraphic	do....		3
Other, unenumerated	do....		3
Kerosene shale	per ton..	1	0
Jute	do....	3	0
Lead:			
Ore	do....	3	0
Pig	per cwt..		3
Pipe	do....		3
Sheet	do....		3
White	do....		3
Lime	per ton..	3	0
Linseed meal	per cwt..		3
Machinery and machines	per ton..	3	0
in packages	do....	3	0
Malt	per cwt..		3
Marble, unwrought	per ton..	3	0
Meals	per cwt..		3
Metal, yellow	do....		3
Metals, unenumerated	do....		3
Nails	do....		3
Nuts, cocoanuts	per ton..	3	0
Oakum	do....	3	0
Oars	per doz..		6
Oatmeal	per cwt..		3
Oilcake	per ton..	3	0
Onions	per cwt..		3
Ores and mineral earths	per ton..	3	0
Pepper	per cwt..		3
Plaster of paris	per ton..	3	0
American	do....	3	0
Pollard	per cwt..		3
Potatoes	do....		3
Pulu	per ton..	3	0
Quartz	do....	3	0
Rags	do....	3	0
Railway materials	do....	3	0
Rice	per cwt..		3
Rice paddy	do....		3
Rivets	do....		3
Sago in bags	do....		3
Salt	do....		3
Salt rock	do....		3
Sandalwood	per ton..	3	0
Sashes, window, in packages	do....	3	0
Screws	per cwt..		3
Seeds, unenumerated	do....		3
Shell, pearl	per ton..	3	0
Skins:			
Green	do....	3	0
Dry	do....	3	0
Slates:			
Roofing	per M..	3	0
Slabs	per ton..	3	0
Slush, cook's	do....	3	0
Spelter	per cwt..		3

		s.	d.
Spokes, loose	per doz..		3
Steel	per cwt..		3
Stones:			
Grind	per ton..	3	0
Mill	do....	3	0
Unwrought	do....	3	0
Straw	do....	3	0
Sugar:			
Raw	per cwt..		3
Refined	do....		3
Sulphur or brimstone, in packages	per ton..	3	0
Tallow	do....	3	0
Tanks, iron	each..	1	0
Tapioca, in bags	per cwt..		3
Timber:			
Deals	per 480 super. feet..	3	0
Flooring boards	do....	3	0
Dressed, other	do....	3	0
Undressed	do....	3	0
Laths	per M..	1	0
Logs	per 480 super. feet..	3	0
Palings	per 100..	1	0
Pickets	do....	1	0
Posts and rails	do....	3	0
Shingles	per M..	1	0
Shooks and staves	per bundle..		6
Shooks, loose	per doz..		3
Spars and piles	per 480 super. feet..	3	0
Spokes and felloes, loose	per doz..		3
Small pieces of shaped	per dozen..		3
Tin:			
Block	per cwt..		3
Ore	per ton..	3	0
Plates	per cwt..		3
Twine and lines, in packages	per ton..	3	0
Vegetables:			
Fresh	per cwt..		3
Salt	do....		3
Preserved	do....		3
Washers	do....		3
Wax, paraffine, in packages	per ton..	3	0
Whiting	do....	3	0
Wire netting, in packages	per cwt..		3
Wool (in packages):			
Greasy	per ton..	3	0
Scoured	do....	3	0
Washed	do....	3	0
Yarn	do....	3	0
Zinc:			
Ingots	per cwt..		3
Sheets	do....		3
Perforated	do....		3

Special rates fixed by regulation.

Stone used exclusively for ballast and not carried on freight, landed from any vessel at any wharf, dock, pier, jetty, landing-stage, slip, or platform, within the port of Melbourne	per ton..		3
Packages in which goods have been exported from the port of Melbourne, but which are returned empty to the said port, viz:			
On packages, each measuring not more than 10 cubic feet	per dozen..	1	0
On packages, each exceeding 10 cubic feet, but not more than 20 cubic feet	per dozen..	2	0
On packages, each exceeding 20 cubic feet	do....	3	0
Ballast composed of sand and shingle, or of sand and shingle respectively, landed from any vessel at any wharf, dock, pier, jetty, landing-stage, slip, or platform within the port of Melbourne	per ton..		3

	s.	d.
Goods landed from any vessel and forwarded, within 48 hours from time of landing, per railway to any part of New South Wales or South Australia, Per weight or measurement per ton..	1	0
Goods transshipped within 14 days to any port outside the colony...per ton..	1	0

N. B.—Gross weight or measurement is in all cases required.

EXEMPTIONS.

Goods belonging to Her Majesty's Government, passengers' luggage, guano, bones, bone dust, live stock. Goods arriving coastwise from any place within Victoria.

Rates of pilotage.

PORT PHILLIP.

Description of vessel.	Per ton.	Maximum.	Minimum.
	d.	£ s. d.	£ s. d.
Sailing and steamers under sail only:			
From without the Heads to Melbourne wharves, or *vice versa*	5½	45 0 0	6 0 0
From within the Heads to Melbourne wharves, or *vice versa*	3½	29 0 0	3 10 0
From without the Heads to inner anchorage, Hobson's Bay,* or Geelong wharf, or *vice versa*	5	40 0 0	5 5 0
From within the Heads to inner anchorage, Hobson's Bay,* or Geelong wharf, or *vice versa*	3	25 0 0	3 0 0
From without the Heads to outer anchorage, Hobson's Bay,* or anchorage at Point Henry, or *vice versa*	4½	37 0 0	4 15 0
From within the Heads to outer anchorage, Hobson's Bay,* or anchorage at Point Henry, or *vice versa*	2½	20 0 0	2 10 0
From without the Heads to any anchorage within the Heads and below the channels, or *vice versa*	2	15 0 0	2 5 0
From Melbourne to Point Henry, or *vice versa*	2½	19 0 0	2 5 0
From Melbourne to Geelong, or *vice versa*	3½	24 0 0	3 0 0
For each remove from one place of anchorage to another in Hobson's Bay or Corio Bay	1	6 0 0	1 0 0
From Hobson's Bay to Melbourne, or *vice versa*	2	5 0 0	2 0 0
From Point Henry to Inner Harbor, Geelong, or *vice versa*	1	5 0 0	2 0 0
From Footscray or Yarraville to Melbourne wharf or any intermediate distance, or *vice versa*	1	5 0 0	1 0 0
Towed by steam:			
From without the Heads to Melbourne wharves, or *vice versa*	4	33 0 0	4 0 0
From within the Heads to Melbourne wharves, or *vice versa*	2½	21 10 0	2 10 0
From without the Heads to inner anchorage, Hobson's Bay,* or Geelong wharf, or *vice versa*	3½	30 0 0	3 10 0
From within the Heads to inner anchorage, Hobson's Bay,* or Geelong wharf, or *vice versa*	2½	20 0 0	2 10 0
From without the Heads to outer anchorage, Hobson's Bay,* anchorage at Point Henry, or *vice versa*	3	26 0 0	3 0 0
From within the Heads to outer anchorage, Hobson's Bay,* or anchorage at Point Henry, or *vice versa*	2	17 10 0	2 5 0
From without the Heads to any anchorage within the Heads and below the channels, or *vice versa*	1	10 0 0	1 10 0
From Melbourne to Point Henry, or *vice versa*	1½	11 10 0	1 10 0
From Melbourne to Geelong, or *vice versa*	2½	14 10 0	2 5 0
For each remove from one place of anchorage to another in Hobson's Bay, or Corio Bay	¾	4 0 0	1 0 0
From Hobson's Bay to Melbourne, or *vice versa*	1	3 0 0	1 5 0
From Point Henry to inner harbor, Geelong, or *vice versa*	¾	3 0 0	1 5 0
From Footscray or Yarraville to Melbourne wharf, or any intermediate distance, or *vice versa*	¾	3 0 0	1 0 0

* A line bearing N. 61° E. (magnetic) from the light-house on Gellibrand's Point, and running through the St. Kilda White Perch Buoy, divides the inner from the outer anchorage of Hobson's Bay.

Rates Nos. 1 and 2 in each of the foregoing scales of sea pilotage shall cover one complete pilotage from sea to Melbourne wharf and from inside the Heads to Melbourne wharf, respectively, provided that is the vessel's destination; and such vessels may lighter a portion of their cargo in the stream, if that is necessary in order to enable them to reach the Melbourne wharf, and may remain 7 days in Hobson's Bay before going up the river or after loading at Melbourne wharf, without being charged an extra river pilotage.

TABLE J.—*Rates of pilotage*—Continued.

PORT PHILLIP—Continued.

Description of vessel.	Per ton.	Maximum.	Minimum.
	d.	£ s. d.	£ s. d.
Steam:			
From without the Heads to Melbourne wharves, or *vice versa*	3½	30 0 0	4 0 0
From within the Heads to Melbourne wharves, or *vice versa*	2½	21 0 0	2 10 0
From without the Heads to the inner or outer anchorage, Hobson's Bay, * or Geelong wharf, or *vice versa*	3	25 0 0	3 0 0
From within the Heads to the inner or outer anchorage, Hobson's Bay, * or Geelong wharf, or *vice versa*	2	16 0 0	2 0 0
From without the Heads to the anchorage at Point Henry, or *vice versa*	2½	22 0 0	2 10 0
From within the Heads to the anchorage at Point Henry, or *vice versa*	1½	13 0 0	1 10 0
From without the Heads to any anchorage within the Heads and below the channels, or *vice versa*	1	9 0 0	1 10 0
From Melbourne to Point Henry, or *vice versa*	1½	11 10 0	1 10 0
From Melbourne to Geelong, or *vice versa*	2½	14 0 0	2 5 0
For each remove from one place of anchorage to another in Hobson's Bay	½	4 0 0	1 0 0
From Hobson's Bay to Melbourne, or *vice versa*	½	3 0 0	1 5 0
From Point Henry to inner harbor, Geelong or *vice versa*, or from one place of anchorage to another in Corio Bay	½	3 0 0	1 0 0
From Footscray or Yarraville to Melbourne wharf or any intermediate distance, or *vice versa*	½	2 0 0	1 0 0
Steam and sailing, and towed by steam:			
From Sandridge or Williamstown piers into any dock or on to any slip in Hobson's Bay, or *vice versa*	½	4 0 0	0 15 0
From Sandridge or Williamstown piers to the swinging buoys in Hobson's Bay for adjustment of compasses, or *vice versa*	½	4 0 0	0 15 0
Extra pilotage rate for vessels commanded by exempt masters.			
For steamers or vessels towed by steam:			
For pilotage through the south or west channels only	1	10 0 0	1 10 0

OUTPORTS.

Sailing and steamers under sail only:			
Into or out of—			
Port Albert	3	24 0 0	3 0 0
Corner Inlet	3	24 0 0	3 0 0
Portland Bay	2½	10 0 0	2 0 0
Belfast	2½	10 0 0	2 0 0
Warrnambool	2½	10 0 0	2 0 0

* A line bearing N. 61° E. (magnetic) from the light-house on Gellibrand's Point, and running through the St. Kilda White Perch Buoy, divides the inner from the outer anchorage of Hobson's Bay.

Rates Nos. 1 and 2 in each of the foregoing scales of sea pilotage shall cover one complete pilotage from sea to Melbourne wharf and from inside the Heads to Melbourne wharf, respectively, provided that is the vessel's destination; and such vessels may lighter a portion of their cargo in the stream if that is necessary in order to enable them to reach the Melbourne wharf, and may remain 7 days in Hobson's Bay before going up the river, or after loading at Melbourne wharf, without being charged an extra river pilotage.

Steamers and vessels towed by steam:			
Into or out of port of—			
Port Albert	2½	16 0 0	2 10 0
Corner Inlet	2½	16 0 0	2 10 0
Portland Bay	1½	7 0 0	1 10 0
Belfast	1½	7 0 0	1 10 0
Warrnambool	2½	7 0 0	1 10 0

Vessels forced back within 48 hours after having been piloted to sea, one-half of the above rates.

Such sailing vessels as may receive the assistance of a steam tug for any intermediate distance to those above enumerated will be allowed (if considered just) a proportionate reduction of the rates of pilotage on reference to the marine board.

If any pilot in charge of any ship entering into or proceeding out of any port within Victoria shall remain on board such ship whilst under quarantine, or shall be taken to sea or delayed in the performance of his duty by any act of the master of such ship, every such master shall pay, in addition to the said rates of pilotage, the sum of 30 shillings for every day of his so remaining on board, being taken to sea, or being delayed as aforesaid.

EXEMPTIONS.

All vessels under 50 tons.
All vessels belonging to Her Majesty, all ships outfitting to or refitting from the fisheries, all ships employed in the coasting trade, all ships actually trading between any port of Victoria and any of the colonies of New South Wales, Queensland, Tasmania, New Zealand, Fiji, Western and South Australia (the master of any such ship holding a certificate from the marine board that he is competent to act as pilot to such vessel), unless the services of a pilot shall have been actually received, and all ships not having actually received the services of a pilot.

GIPPSLAND LAKES.

Description of vessel.	Per ton.	Maximum.	Minimum.
Sailing and steamers under sail only:	d.	£ s. d.	£ s. d.
From outside bar to inside, or *vice versa*	3	3 0 0	1 0 0
From inside bar to Bairnsdale, or *vice versa*	1½	1 0 0	0 10 0
From Bairnsdale to Sale, or *vice versa*	1	0 10 0	0 10 0
Steamers and vessels towed by steam:			
From outside bar to inside, or *vice versa*	2½	2 0 0	0 15 0
From inside bar to Bairnsdale, or *vice versa*	1½	1 0 0	0 10 0
From Bairnsdale to Sale, or *vice versa*	1½	0 10 0	0 10 0

GEO. H. WALLACE,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Melbourne, March 21, 1891.

TASMANIA.

REPORT BY CONSUL WEBSTER, OF HOBART.

PILOTAGE.

Pilotage is not compulsory at this port for any vessels. The pilot charges are the same for vessels of all countries. No special privileges are enjoyed. Vessels in distress pay no charges, and on foreign war vessels pilotage would probably be waived.

LIGHTS AND LIGHT DUES.

Four pence per ton on steam and 6 pence on sail on all vessels entering in, unless they arrive and sail in ballast. Payable whether there is or is not a light.

The general character of the lights may be seen from the following table:

Number.	Name.	Location.	Latitude.	Longitude.	Number of lights and relative positions.		Character of light.	Interval of revolution or flash.
			S. ° ′ ″	E. ° ′ ″				
916	Eddystone Point..	On point.....	40 59 49	148 20 50	1	.....	Flash, white and red.	Triple flashes every 30 seconds (see remarks).
920a	Mersey Bluff.....	On bluff, westward of river Mersey entrance.	41 09 40	146 22 20	1	.....	F., with two red rays.	.....
921	Table Cape.....	On cape	40 57 00	145 45 00	1	.....	Flash...	.....

Number.	Height of light above sea level.	Distance visible in nautical miles.	Character of light-house or vessel.	Height of tower from base to vane.	Character and order of illuminating apparatus.	Year lighted or altered.	Remarks.
916	142	18	White.....	85	D., 1st ord..	1889	Shows 3 white flashes between the bearings S. 22° 35′ W. and N. 22° 25′ W. (135°); 2 white and 1 red flashes between S. 22° 35′ W. and S. 17° 35′ W. (5°); 1 white and 2 red flashes between S. 14° 35′ W. and S. 9° 35′ W. (5°); 3 red flashes between S. 7° 35′ W. and S. 38° 25′ E. (46°); 1 red and 2 white flashes between N. 22° 25′ W. and N. 17° 35′ W. (5°); 2 red and 1 white flashes between N. 14° 25′ W. and N. 9° 25′ W. (5°); and 3 red flashes between N. 7° 25′ W. and N. 23° 35′ E. (31°). The northerly red sector covers Salamander Rock, Eucalyptus Rock, and other dangers in that vicinity; the southerly red sector covers the rocks off St. Helen's Point; a subsidiary red light, placed 60 feet eastward of the light-house, covers Victoria Rocks, and is visible 2½ miles. Variation 9° 35′ easterly in 1889.
920a	71	13	.....	.....	D., 4th ord.	1889	Shows white over an arc of 117° seaward, and on each side of this arc shows a red ray. These red rays serve to clear the outer extreme of the Horseshoe Reef to the eastward and the outer extreme of Rocky Reef to the westward.
921	390	27	Brick tower; natural color.	.....	D., 2d ord..	1888	Visible between the bearings S. 52° 20′ E. and N. 57° 20′ W., over an arc of 175°. A red ray of light is exhibited at either limit of the bright arc. The light is partially obscured inshore of the red rays, showing a faint light to denote its position, but do not pass inshore of the red rays.

TONNAGE DUES.

None are charged at this port to any vessels.

QUARANTINE.

I beg to refer you to the inclosed letter from the central board of health for full replies to queries.

Board of health to Consul Webster.

CENTRAL BOARD OF HEALTH—PUBLIC HEALTH ACTS.

A. G. WEBSTER, Esq.,
Consul for the United States, Hobart:

DEAR SIR: I have much pleasure in forwarding to you herewith information concerning the subject of quarantine in Tasmania, in reply to questions submitted in the accompanying circular:

Quarantine in Tasmania is regulated by an act of the colonial parliament, 45 Victoria No. 1. Under its provisions the governor in council may notify places as infected with smallpox "or other infectious or contagious diseases," and vessels arriving from such places and their passengers, crew, and goods, or persons having communicated with them, are liable to quarantine, and the observance of the quarantine enforced by penalties, with power to seize persons, etc.

The governor in council may order vessels from places not notified, but which during the voyage have had a case of infectious, etc., disease. Every master of a vessel arriving from over sea to make report and answer questions of officer of health.

There are general provisions for appointing quarantine stations, regulating their management, etc., for the inspection of ships, etc., for disinfection, etc.

Virtually quarantine is limited to vessels with smallpox or cholera on board. But should yellow fever and other malignant disease have occurred it would also be dealt with.

The duration of quarantine is to the end of the incubatory period after the complete convalescence, meaning cessation of power to impart infection.

The owners have to bear the costs of maintenance, medicine, etc., of detained passengers, and of disinfection of cargo.

The quarantine establishments are under the general government.

A. G. WEBSTER,
Consul.

UNITED STATES CONSULATE,
Hobart, October 24, 1889.

CONTINENT OF EUROPE.

BELGIUM.

REPORT BY CONSUL STEWART, OF ANTWERP.

PILOTAGE.

tage is compulsory in all cases, as well for Belgian as for foreign
s.
charges for pilotage are the same for Belgian as for foreign ves-
In this regard no foreign flag possesses any special privilege;
ines of regular steamers, however, enjoy a subsidy or restitution
amount paid for pilotage.
sels in distress pay only half pilotage if they do not break bulk.
eign war vessels pay pilotage only in case they take a pilot;
ge is not compulsory for them, and they are exempt from all gov-
nt dues.

LIGHTS AND LIGHT DUES.

ht dues on steam and sail, laden or in ballast, are 22 centimes
n on Belgian net tonnage without any distinction.
se dues are payable only at one port in Belgium during the same
e.
the ports in Belgium have lights.
general character of the principal lights is as follows:

Place.	Character of light.	Distance visible.
		Miles.
.....	Fixed bright.....	20
.....	Fixed red.....	8
berg	Fixed bright.....	12
.....	Fixed green fishing	8
.....	Fixed bright.....	12
lluis	Two fixed bright leading...	11
pelle	One fixed bright.....	13

ides several other lights of different colors leading up the river
lt.
to American vessels, the rate charged for light dues is 22
nes per ton according to Belgian net measurement. Pilotage is
er "decimetre," equal to about 4 inches; the price varies with the
f the ship or draft of water and is governed by tariff. These dues
ll paid at the pilotage office.
ere is no discrimination of any kind in favor of or against vessels
e United States.

This country and this port charge their own shipping, engaged in the foreign or coasting trade, light-house dues, and they are no greater or no less than those charged to vessels of the United States and other foreign vessels.

TONNAGE DUES.

Tonnage dues have been abolished since 1863.

QUARANTINE.

The rules and regulations governing quarantine are established by a sanitary committee of four persons (two being members of the Chamber of Commerce, and two of the medical commission of the provincial government), elected yearly, and presided over by the governor of the province, who, under orders of the minister of the interior, is intrusted with the duty of establishing such rules and measures as they may judge adequate to secure the proper sanitary condition of the port and province.

The diseases for which vessels are quarantined are yellow fever, cholera, plague, smallpox, typhoid fever, and whooping cough.

Every vessel entering the river for Antwerp is boarded by a pilot, part of whose duty it is to inquire of the captain the port whence his ship comes, if he has a bill of health, and whether there has been any disease or death on board during the voyage. All vessels are boarded by the medical officer on arrival at the quarantine station below the city.

If the ship has a clean bill of health from a healthy port she is not detained.

Ships arriving from a port where an epidemic is raging or that have persons on board suffering from any of the diseases mentioned above, must hoist a yellow flag before arrival at quarantine; the medical officer then boards the ship and examines her condition, and telegraphs the result to the governor of the province; the governor thereupon requests the committee to repair on board, investigate and report to him, so that they may order detention, fumigation, and such other measures as are deemed necessary to prevent the spread of the disease. There is a hospital at the quarantine station to which serious cases can be consigned; again, where the situation is not very serious, the vessel is allowed to come up to the city, and the sick are sent immediately to the city hospital. The effects of the persons suffering from diseases quarantined are burnt under the supervision of the naval commissary.

Certain merchandise of a nature to propagate disease, such as rags, feathers, hair, etc., coming from a country where an epidemic exists, is prohibited for entry and even for transit.

The duration of the quarantine rests upon the decision of the sanitary committee, and depends, of course, upon the sanitary condition of everybody and everything connected with the ship; it is not unnecessarily prolonged.

The expense of detention and fumigation are borne by the ship unless stipulated to the contrary in the charter-party or bill of lading.

There is at present no governmental law regulating quarantine, but at the International Medical Convention held here in 1885, a series of rules and regulations governing quarantine were adopted, and which it is hoped the Government may embody into a law.

JOHN H. STEUART,
Consul.

UNITED STATES CONSULATE,
Antwerp, August 9, 1889.

GHENT.

REPORT BY VICE-CONSUL VERHULST.

PILOTAGE.

Pilotage is compulsory on the river Scheldt for all vessels, whether Belgian or foreign, coming from and going to the sea, with the following exceptions: War vessels, yachts or pleasure boats belonging to rowing clubs; sea-going vessels in ballast when draft does not reach 19 decimetres (6¼ feet); vessels navigating from one place to another in the river, and vessels or boats in the herring, cod, or fresh water fishery trade or used for the shipment of fresh or salted fish.

Pilot dues are the same for Belgian vessels as foreign vessels. No foreign flag enjoys special privileges.

Vessels in distress only pay one-half of the pilot dues; foreign war vessels pay no pilotage.

Vessels for Ghent enter the Ghent-Terneuzen Canal at Terneuzen. Pilotage on the canal is not compulsory.

LIGHTS AND LIGHT DUES.

Light dues for vessels of which the destination is a Belgian port are payable at one port only during the same voyage, whether there is or is no light.

The lights are either floating lights or light-houses.

Light dues for vessels coming to Ghent from the sea and going from Ghent to the sea by the Ghent-Terneuzen Canal are 11 centimes per ton, equal to 2.83 cubic metres ($0.02125 per ton, equal to 100 cubic feet) each way. They are paid by the shipmaster into the hands of the commissaire maritime and collector of the marine dues at Ghent. The above light dues are for the voyage from the sea to the entrance of the Ghent-Teruenzen Canal and *vice versa*. Light dues are not levied on the Ghent-Terneuzen canal.

Light dues for vessels coming from the sea to the ports of Ostend and Nieuport are 17 centimes per ton, equal to 2.83 cubic metre ($0.0328 per ton equal to 100 cubic feet), payable into the hands of the commissaire maritime and collector of marine dues in both ports. The foot of draft is 1 decimetre, or 4 inches.

The light dues are the same for both Belgian and foreign vessels (steam and sail, laden). Vessels in ballast only pay one-half of the light dues.

There is no discrimination in favor of or against vessels of the United States.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels, whether on the foreign or coasting trade, laden or in ballast, with the following exceptions: War vessels, boats or vessels exclusively employed for fishing, yachts and pleasure boats, and steam tugs. There is no discrimination in regard to flag. No vessels of any nationality enjoy special privileges.

QUARANTINE.

Each pilot, fisherman, or seaman, before going on board the ship at sea or coming from the sea, either to pilot her or for any other purpose, must ask the name of the ship, the name of the captain, the port of departure, and the port of destination.

If the ship be from a country where contagious diseases are suspected to prevail, the pilot who takes command of the ship must immediately hoist the quarant*ine flag.*

The ship will then be moored at a suitable place, and if only for a sanitary inspection, this will be gone through with the greatest possible speed, and the ship allowed to continue her course.

But if the quarantine is decided upon the ship will have to remain in quarantine until the authorities are satisfied that all danger is over, when she will be permitted to proceed to her destination.

There is no fixed duration of quarantine.

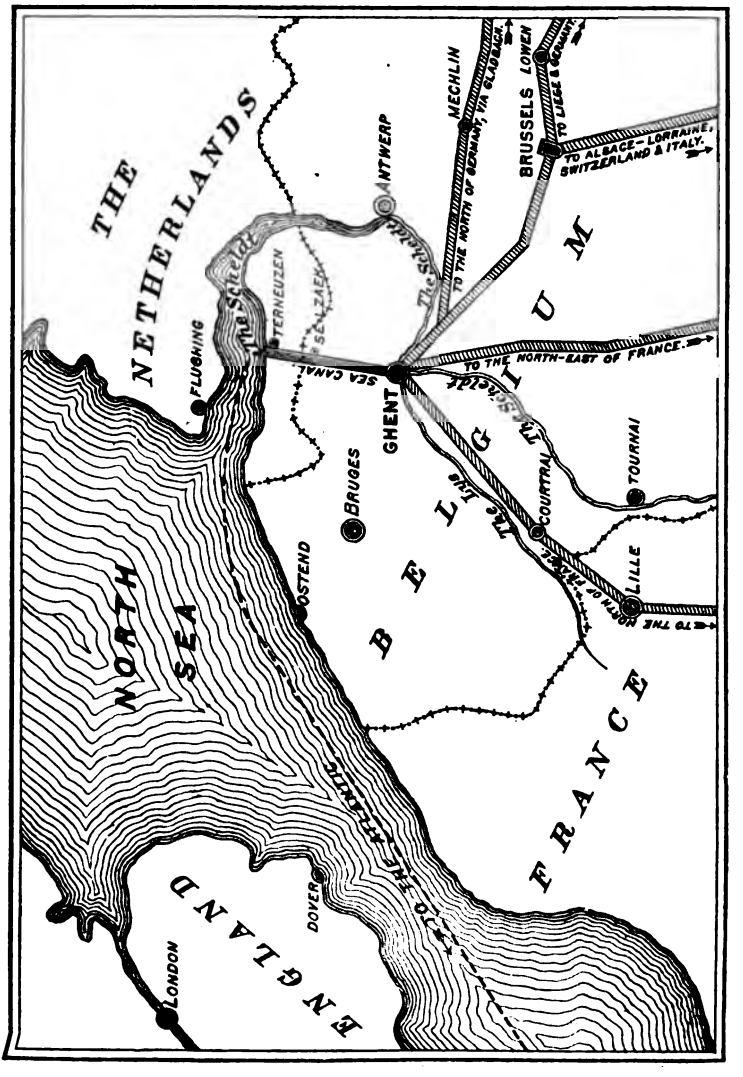
The diseases quarantined are the cholera, smallpox, and all others which are left to the discretion of the authorities.

The expenses of detention and fumigation as to passengers and cargo are borne by the shipowners.

The quarantine rules are established by the general government.

GEORGE VERHULST,
Vice-Consul.

UNITED STATES CONSULATE,
Ghent, September 9, 1889.



DENMARK.

COPENHAGEN.

REPORT BY CONSUL RYDER OF COPENHAGEN.

PILOTAGE.

Pilotage is not compulsory in Denmark for any vessel, no matter under which flag, except at a very few provincial towns, at which harbor pilotage is compulsory. For instance, the pilotage is charged by the harbor authorities whether a pilot has been employed or not, and this refers to Danish as well as foreign vessels when above 40 to 60 registered tons.

The pilotage, if pilots are employed, is the very same for Danish as for foreign vessels, and no flag enjoys any special privilege, neither vessels in distress nor war vessels of any nation. The pilotage is charged per foot according to distance, and is the same for steam as for sailing vessels.

LIGHTS AND LIGHT DUES.

Light dues are not payable by any vessel in Denmark, whether Danish or foreign.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels (men-of-war and fishing and yachts excepted) when loaded and when discharging a cargo in a Danish port, but not for loading a cargo, nor when coming or going in ballast, and the dues are the same for foreign as for Danish vessels; in foreign trade 5.0 öre per register ton of vessels if full loaded, or same rate per ton of quantity loaded or discharged if only partly loaded. For deck cargo the same rate is charged. No tonnage dues are collected from vessels in the coasting trade. In this trade all foreign vessels above 30 tons can participate.

There is no discrimination in regard to flag excepting the very few privileged countries with which Denmark has no treaties, such as Uruguay, Paraguay, etc., of which countries, however, no ship has been in a Danish port for more than 30 years.

No vessels of any nationality enjoy special privileges

QUARANTINE.

Under the Danish quarantine rules the following list of diseases are quarantined, viz, cholera, yellow fever, smallpox, and ship fever, after the Government has declared a country or port in quarantine. The duration of quarantine for each and from each port is decided upon by the Government, together with restrictions and regulations as to treatment of cases of sickness. If a ship arrive from a country or port where such diseases exist, a quarantine doctor inspects all the crew, passengers, and everything connected with the ship free of charge, and if no disease has been noticed during the voyage or during the preceding 8 days free pratique is given. If doubtful, the ship is put under observation for a short time, but not less than 48 hours. If sickness is found the person or persons are taken into the quarantine hospital, the vessel in question bearing the expenses of detention and fumigation, as to passengers and cargo.

According to the law of July 2, 1880, all quarantine rules are promulgated by the General Government through the minister of justice, who also has the power to decide which diseases are to be considered as contagious or not.

HENRY B. RYDER,
Consul.

UNITED STATES CONSULATE,
Copenhagen, August 10, 1889.

FRANCE.

HAVRE.

REPORT BY CONSUL DUFAIS.

PILOTAGE.

Pilotage is obligatory, and is the same for vessels of all nations, without any privileges. Vessels in distress as well as vessels of war are obliged to pay pilotage.

LIGHTS AND LIGHT DUES.

There are no light-house dues.

TONNAGE DUES.

Tonnage dues, or "droits de péage," are levied indiscriminately on all vessels except those engaged in the coasting trade; they amount to 55 centimes (11 cents) per ton register; vessels, however, laden with breadstuffs, coal, lumber, or ice to the extent of at least 90 per cent. of their tonnage pay only 30 centimes (6 cents) per ton. These dues revert to the chamber of commerce to provide for improvements of the port, and are levied by the custom-house; there is no discrimination as to flag; no nationality has a special privilege over another.

Then there are quay dues on vessels, without distinction of flag, laden, or only partially laden, of 50 centimes (10 cents) per net ton coming from European ports or the Mediterranean basin, from Morocco or from Ceuta to Mogador inclusive; 1 franc (20 cents) from all other countries.

From these dues the following are free: (1) Vessels arriving in ballast, whether they load afterwards or not. (2) Coasting vessels. (3) Vessels touching here, if they have paid this tax before. (4) Men-of-war. (5) Pleasure yachts. (6) Vessels taking refuge by stress of weather. These dues are levied by the Government.

QUARANTINE.

As to quarantine, vessels coming from any contaminated port are quarantined on arrival; those arriving without a bill of health are, as a sort of fine for this omission, placed for 24 hours under sanitary observation, even if there is no sickness on board. The list of diseases quarantined comprises pest, cholera, yellow fever. The duration depends upon the port the vessel arrives from, the gravity of the sickness, and the number of patients or deaths during the voyage; sometimes the

vessel has even to be sent to the lazaret grounds to undergo quarantine and fumigation. In serious cases of quarantine and cleansing, both owner and consignees of cargo have to share in the necessary expenses.

The Government alone prescribes and regulates the sanitary laws.

F. F. DUFAIS,
Consul.

UNITED STATES CONSULATE,
Havre, France, August 12, 1889.

NICE.

REPORT BY CONSUL HATHAWAY.

PILOTAGE.

In no case is pilotage compulsory for the ships of any nation under any circumstances, within the harbor or this consulate, excepting for the war vessels of France itself. The entrance fee thereto, which includes pilotage however, if accepted, is 40 francs for each and all vessels whether foreign or domestic, and the departure fees for the same are 25 francs for each steamship and 20 francs for each sailing vessel without regard to nationality. Ships bound elsewhere, but putting in through distress, are charged only for sanitary dues.

LIGHTS AND LIGHT DUES.

There are no light dues on steam or sail vessels, laden or in ballast. The light-houses are established and maintained by the General Government and not by the municipalities. The said light-houses stand near the entrance of each port and are illuminated by reflectors revolving by clockwork. At Nice the light is red and white successively every 20 seconds; its altitude is 27 metres, and it is visible 10 maritime miles. At Antibes the light is white, and its altitude 133 metres; it revolves every 30 seconds, and is visible for 22 miles. At Villefranche the light is white, and its altitude 63 metres; it revolves every 45 seconds, and is visible for 15 miles.

TONNAGE DUES.

Tonnage dues, called here "droits de quai," are imposed only on ships entering with cargo, and no discrimination exists for or against any flag except that of Italy, with whom France has no navigation treaty. Said dues, which are collected by the custom-houses, are as follows: Nine cents (American) per ton on coasting vessels, 38.6 cent per ton on steamships, and 21 to 31 cents for sailing seagoing vessels.

SANITARY DUES.

Sanitary dues are taxed as follows: Two cents per ton on coasting vessels, and 3 cents per ton for all seagoing ships, whatever their nationality. Said dues are imposed by the bureau or board of health, and collected by the custom-houses on said ships entering the harbors.

QUARANTINE.

The General Government of France establishes the rules of quarantine, and these are administered under the direction of the minister of the interior, who transmits his orders thereunder to the prefect of this department, by whom said requirements are made known to the health directors of the various ports of the district. The diseases quarantined are yellow fever, cholera, plague, and every sickness deemed contagious. The duration of the quarantine is at the discretion of the said minister, and may be from 48 hours to 40 days. The expenses of detention and fumigation of cargo are at the charge of the ship. The tax of detention of the ship are 6 cents per ton for each day, additional to which are the bills for fumigation, when ordered, and the fees of the medical visitor and of the guardian of health. General merchandise is taxed for fumigation 9.7 cents per 100 kilogrammes, or each 224 pounds. Quarantine is usually made in this region near the entrance to the bay of Villefranche. For passengers whom it is considered necessary to detain at the lazaretto, in that neighborhood, a fee is imposed on each of 36.8 cents for each day of their stay.

ALBERT N. HATHEWAY,
Consul.

UNITED STATES CONSULATE,
Nice, August 31, 1889.

MARSEILLES.

REPORT BY ACTING VICE-CONSUL MARTIN.

PILOTAGE.

Pilotage at Marseilles and all other French ports in the Mediterranean is governed by the regulations contained in the imperial decree of July 23, 1859. The service includes a fleet of two steam tugs and thirteen partly decked boats, lateen rigged, measuring from 6 (the minimum tonnage allowed) to 8 tons, and a personnel of fifty-six pilots and fourteen "aspirants" or apprentices. They are admitted after examination by a board appointed by the commissary of the navy, consisting of a navy officer, two retired pilots, and two merchant-ship masters. No one can be examined who is less than 24 years old and can not produce evidence of service at sea for a period of 6 years.

The corporation is placed under the direct orders of a "pilot-major" appointed by the commissary of the navy. That officer takes charge of all the receipts, pays all expenses, and distributes the net profits to the pilots, under deduction of his own salary, fixed at 4,000 francs per annum and 7½ per cent. of the share coming to each for the maintenance of a relief and pension fund.

In order to establish a basis for the scale of pilotage dues, two imaginary lines have been drawn: The first connects Planier Islet, some 8 miles southwest from the port, with the small port of Carry on the northern coast, and with the island of Riou at the southern end of the gulf; the second, nearly parallel with the first at about half the distance from the port, runs from "La Pointe Rouge" on the southern coast, to Cape Caveaux at the farthermost extremity of Pomegues Island and Cape Mejean on the mainland.

Six of the thirteen boats, each one manned with four pilots, two "aspirants," and one boy, are stationed every week on active service, and, except during severe weather, are kept under sail along the above-mentioned lines; three cruise within the second line and attend to vessels who have crossed it without being boarded by a pilot; one is anchored at the entrance of the new docks, and two moored in the old port opposite the station house to meet emergencies; the thirteenth boat does duty at Port de Bouc, a dependency of Marseilles near the mouth of the River Rhone. Pilot boats in active service fly a square white flag with a blue border during the day, and at night show a permanent bright light placed at the masthead, and at intervals of not more than 15 minutes a bright flash light. One of the two steamers belonging to the corporation is sent out every day for purposes of inspection or assistance.

Merchant ships entering the port of Marseilles signal for a pilot by flying the national flag at the foremast, and, during the night, by showing a bright light over the rails, with intervals of 15 seconds.

Sailing vessels boarded beyond the first line, which, as before stated, is about 8 miles distant from the port, pay a tax of 22 centimes (4.3 cents) per ton; between that and the second line (from 8 to 4 miles) three-quarters of the tax, viz, 16½ centimes, and within the second line 5½ centimes.

As pilotage is compulsory, this last rate is collected when the services of a pilot have not been used, whether voluntarily or not.

Night pilotage is paid for at the same rates increased 2, 1½, and one-half centime, respectively; outward pilotage is at the uniform rate of 15 centimes per ton.

Steamers only pay one-half the charges established for the foregoing vessels.

War vessels of all nationalities are subject to the following pilotage, which is also compulsory: First rate, 50 francs; second rate, 40 francs; third rate, 36 francs.

The law of May 19, 1866, abolished all discrimination between French and foreign vessels, and the above dues are collected from all measuring more than 80 tons per register, irrespective of nationality, exception being made only in favor of vessels engaged in strictly regular service between this and any other port.

After the collapse of the commercial treaty between France and Italy, in March, 1888, the series of retaliatory measures enforced by both governments comprised the exclusion from the benefit of the law of the Italian vessels, which now pay one-half more for pilotage than those of the French or any other nationality.

For a number of years the steam navigation companies whose ships ply in the Mediterranean, and in some instances enter the port several times each month, vainly protested against this tax, which created a heavy burden and could not be justified on the ground of national revenue, since it was collected for the exclusive benefit of the pilots. In 1879 the chamber of commerce, taking the question in hand, pointed to the fact that the shipping interests at Marseilles had in the course of 7 years paid upwards of 2,000,000 francs for pilotage; that each pilot's average salary reached the sum of 3,000 francs yearly, while seagoing captains were content to accept less than two-thirds of that amount; that the relief fund of the corporation had already amassed a capital of 1,000,000 francs, bearing interest, and earnestly demanded that, if pilotage could not be made optional, some method be devised by which masters might pilot their own ships and save the burdensome pilotage dues.

In 1882 the Government offered a compromise, which was rejected as equally unsatisfactory to the conflicting interests concerned, and it was not until November, 1885, that a decree, promulgated by President Grevy, was carried into effect. It determined that all shipmasters who have entered or cleared the port eighteen times in 3 years, twice at least while in actual command, and not more than 1 year previous to the day on which they are examined by the board instituted for professional pilots, shall receive, after successful examination, a certificate by virtue of which they may pilot the ship placed under their command, but no other. This certificate must be visaed every year, and becomes void if the holder does not enter or clear during any one year.

The decree makes no distinction of nationality, but its very requirements obviously exclude all but French shipmasters. It was the first change made since the year 1862 in the collection of pilotage to which even vessels in distress are subject. A reduction of 50 per cent. on the ordinary rates is granted to ships who are, after clearing, forced back into port by stress of weather.

LIGHTS AND LIGHT DUES.

There are no light dues collected in the port of Marseilles, all expenses on that head being borne by the National Government.

The lights found in the bay and harbors of Marseilles are the following:

(1) Planier light-house, built on an islet 8 miles southwest from the port. The lighting power is furnished by electricity at an altitude of 194 feet from the ground and of 207 feet from the level of the sea; it exhibits three bright flashes with intervals of 3 seconds and an intervening space of 12 seconds divided by a red flash. Theoretically the visible distance would be not less than 48 miles; geographically it can be perceived 21 miles.

(2) Pharaman light consists of two fixed lights, the first bright at an altitude of 125 feet, visible 18 miles; the second red, 87 feet below the first, visible 9 miles. Both lights are in the same tower built on the seashore near the mouth of the Rhone.

(3) On Chateau d' If Islet, about 1½ miles from the harbor, is placed a bright fixed light, visible 10 miles, at an altitude of 69 feet.

(4) The entrance to the old port is marked by two lights; one placed at the foot of Fort St. John on the left, 29 feet above the level of the sea, visible 10 miles; the other on the top of a cliff opposite the fort called "Tête de More" (Moor's Head), visible 10 miles, altitude 62 feet.

(5) The southern entrance to the new docks is marked by a fixed green light in a tower built on reefs at Pharo Point, 40 feet above the level of the sea, visible 8 miles, and a fixed red light placed at an altitude of 75½ feet on the southern end of the great breakwater.

(6) The northern entrance is marked by a bright light throwing a red flash every minute. It is visible only within a sector of 81 degrees, which vessels seeking the entrance must first enter, making for the light until the fixed red lights showing the pass are perceived. This light is placed in a small tower built on the summit of a high cliff called Cape Janet. It is visible 14 miles; its altitude is 151½ feet.

TONNAGE DUES.

These dues are collected under the name of "droits de quai" (wharf age), according to the following schedule:

Vessels coming from long sea voyages—that is, from beyond the following limits, the thirtieth degree latitude south, the seventy-second degree latitude north, the fifteenth degree longitude west, pay 1 franc per ton. Vessels coming from foreign ports within the above limits and from Algeria are charged 50 centimes per ton.

Vessels coming in ballast or with merchandise from a French continental port do not pay any "droit de quai."

Italian vessels are the only foreign vessels, which for the reasons already stated, pay a discriminating tax of 20 centimes per ton over and above the usual dues. Moreover, they are charged wharfage in each of the different French ports at which they successively touch.

QUARANTINE.

The quarantine rules enforced throughout France are directed by the National Government, and the sanitary service, formerly a special bureau of the ministry of commerce, was last year transferred to the department of the interior.

The board of health at Marseilles consists of the prefect, a director appointed by the National Government, the mayor, the commissary of the navy, the commanding officer in the army, the chief officer of customs, the government chief engineer, two members of the prefecture council, two members of the city council, two members of the chamber of commerce, and four doctors of medicine. This board decides on particular cases and applies the regulations prescribed in the decree of February 22, 1876, in regard to the three quarantined diseases, viz, the plague, the cholera, and the yellow fever.

Vessels arriving from infected countries or with a foul bill of health without having had any distemper on board are styled suspicious, and placed in quarantine of observation.

In the case of cholera, quarantine of observation is of from 3 to 7 days and may be reduced to 24 hours when the ship has been at sea for more than 7 days.

Yellow fever entails a quarantine of observation of from 3 to 5 days, which may be extended to 7 days if the vessel has been less than 15 days at sea.

Simple suspicion of plague is enough to determine the landing of the cargo in quarantine and to submit the ship, personal effects, and dangerous cargo to thorough disinfection, after which an observation of from 5 to 10 days is maintained.

Ships which have had deaths or cases of the three quarantined diseases are placed in strict quarantine (quarantaine de rigueur) during periods of from 7 to 10 days for cholera and yellow fever, and from 10 to 15 days for the plague.

The sanitary dues are collected from all ships, through their brokers, in accordance with the following rates:

Vessels arriving from a French port on the Atlantic coast, 5 centimes per ton; from a European port (other than French), 10 centimes per ton, from long sea voyages, 15 centimes per ton.

When quarantined they are subject to the following additional taxes: Three centimes per ton and per day, 2 francs per day for each first-cabin passenger, 1 franc per day for each second-cabin passenger, 50 centimes per day for each steerage passenger, 50 centimes per 100 kilos of merchandise disinfected, 1 franc per 100 pieces hides, 50 centimes per 100 pieces skins.

War vessels, ships in distress, and fishing craft are exempt from sanitary dues.

The expenses of disinfection are borne by the merchandise, and board, lodging, and medical aid are charged to the passengers, except emigrants, who by virtue of their contract are maintained at the ship's expense, and soldiers and seamen, for whom the state is responsible.

J. S. MARTIN, JR.,
Acting Vice-Consul.

UNITED STATES CONSULATE,
Marseilles, August 29, 1889.

ROUEN.

REPORT BY CONSUL WILLIAMS.

PILOTAGE.

Pilotage is obligatory upon all vessels. Pilot charges are the same for vessels of this country and for foreign vessels. No foreign flag enjoys special privileges in this regard, but Italian and Greek flags pay 50 per cent. extra.

Vessels in distress and foreign war vessels pay pilotage.

LIGHT DUES.

There are no light dues in France.

As to American vessels, rate charged per ton foot of draft per voyage, I refer to adjoined account showing actual dues paid per registered ton and all other charges. The dues are collected through custom-house.

There is no discrimination in favor of or against vessels of the United States.

TONNAGE DUES.

On laden vessels only at the rate of 1 franc per registered ton foreign, 50 centimes coasting. As there is no discrimination in regard to flag, except for the Greek and Italian flags, which pay 50 per cent. extra, no vessels of any nationality enjoy special privileges.

QUARANTINE.

The diseases quarantined are cholera, yellow fever, and plague, which are the only exótic infectious diseases which in France occasion the application of permanent sanatory measures against arrivals by sea from countries where these diseases exist.

Other serious contagious diseases, notably typhus fever and smallpox, can, however, be the object of exceptional precautions, but in this case the measures taken are only applicable to the countries contaminated. Measures of precaution can always be taken against vessels whose hygienic conditions are thought dangerous, from whatever country they may come.

The presentation of a bill of health, on the arrival at a French port, is compulsory for all vessels coming from the eastern coasts of Turkey in Europe, from the shores of the Black Sea, and from countries situated out of Europe, Algeria excepted.

The captain of a ship unprovided with a bill of health, when on account of the country he comes from he ought to have had one, or having an irregular one, becomes on his arrival at a French port liable to the fines and penalties enumerated in the fourteenth article of the law of the 3d of March, 1822.

The sanitary inspection of the coast is carried on by officers having their instructions from headquarters and by local committees whose powers are given them as follows:

The coast is divided into sanitary districts of which the number and extent are fixed by a decree of the ministers of agriculture and of commerce.

In each district is placed a chief officer, who takes the title of "directeur de la santé" corresponding to our health officer. There are, besides head officers, medical assistants and under-officers in the different ports; these officers report to their chief "directeur de la santé," from whom they receive their instructions; each district has besides a number of agents, employés, and guards in proportional number to the requirements of the service.

The chief "directeur de la santé and all the agents are charged to enforce sanatory laws and instructions. They seek to find out the sanatory state of foreign countries and give free pratique if entitled to the same.

They see that the laws or orders with reference to quarantine are carried out, and also the particular precautions to which countries infected or suspected are to be subjected. They have to oppose by all the means in their power any infringement of the sanatory laws, and to report such infringements by "procés verbal" (legal proceedings).

In unforeseen and urgent cases they can insist upon temporary precautions which the interest of the public health might necessitate, waiting a decision from their superiors. They deliver and visé bills of health.

The directeur de la santé is selected from the medical service; he is chief in his district; all the employés and agents are under his orders; these in difficult and unforeseen cases must take their instructions from him.

The directeur de la santé asks and receives his orders directly from the minister for all questions that interest the public health. He is to keep himself well informed of the state of health in his district and that of all foreign countries with which his district is in communication. In threatening and unforeseen cases he can take such measures as he thinks necessary to guaranty the public health, but must report immediately such measures to the minister.

The different directeurs de la santé must communicate with each other all sanatory information which is of interest to their service.

The principal and ordinary agents of the sanatory service have a right to call in the public force to carry out the instructions given to them.

They have also the right to ask (but only in cases of emergency) the assistance of the officers and employés of the maritime service, the employés of the custom-house, the officers of the port, policemen, country and forest guards, and, if necessary, the public. But they can not in the case of emergency take from their posts individuals attached to the public service, unless in case of danger so imminent as to overrule all other interests.

The chief agents and agents of the sanatory service are taken as much as possible from the employés of the custom-house. They receive as sanatory agents an indemnity from the funds appropriated for the sanatory expenses.

The "directeur de la santé," the chief agents of the sanatory service, the captain of the lazaretto, and the receivers of the sanatory taxes are selected by the minister of agriculture and of commerce.

If the candidates belong to the custom-house they are selected by the minister of finance.

The ordinary agents are named by the prefet on the recommendation of the directeur de la santé or the chief agent, and with the consent of the custom-house officer, if the agent selected belongs to that service.

The other employés of the sanatory service are appointed by the prefet on the recommendation of the directeur de la santé.

The medical men attached to the sanatory service of the lazaretto or of the coast are named by the minister of agriculture and of commerce.

The agents of the lazaretto, exclusively reserved for war ships, are appointed by the minister of agriculture and of commerce, on the recommendation of the minister of the marine.

The sanatory doctors placed in the Levant, by the knowledge which they have of the sanatory state of the countries in which they reside, complete the precautions taken on the French coast. The bills of health are given, or visa, by the French consuls, with the doctor's advice. In each sanatory district there is at least one sanatory committee residing in the most important port, and if necessary in other parts of the district.

The sanatory committees represent the local interest. They are composed of the several managing bodies, scientific and commercial, who can form the best and clearest judgment of the maritime questions concerning the public health.

The following are by right members of the sanatory committees: (1) The directeur de la santé; (2) the mayor; (3) the highest of rank among the general officers attacked to the territorial command; (4) in a commercial port the commissionnaires charged with the maritime service, and in military ports the maritime prefet, the major-general, and the doctor, the highest in rank of the maritime health service; (5) the director or inspector of the custom-house, or in their absence the highest employés in the service; (6) the chief engineer or ordinary engineer attached to the maritime service of the port; (7) in the resident towns of the prefet, two of his counselors.

Each committee contains besides three members at the least, or six at the most, selected by election, as follows: One-third by the municipal council, one-third by the chamber of commerce, or if it does not exist, by the tribunal of commerce of the place, and one-third by the board of health of the district. The choice must be made of persons being members of the bodies who name them and having their residence in the town where the committee sits.

If neither a chamber of commerce nor a commercial court exists in the locality, the municipal council names, besides the members taken from their midst, a third of the members chosen from the merchants. If no board of health exists the municipal council is required to name the last third selected from among the physicians. The members of the board of health, thus constituted, are elected for three years, and one-third of the number is changed each year.

During the first two years the members retiring are selected by lot, afterwards by seniority. They may be indefinitely reëlected.

The consular corps of the port where the health board sits can select one of their number to take part in the deliberations of the board, with privilege of a consulting attendant.

Prefets and subprefets are designated presidents of sanatory boards established in their departments, and can delegate such authority.

These health boards have regular meetings at least quarterly, and can be called together at other times if required.

These health boards have the general superintendence of the sanatory service of their localities, advise with the chief health officer, but in case of any disagreement the health officer can take any step which he deems proper, informing the minister and subject to his decision.

The board of health advise concerning duration of time of quarantine, choice of localities for quarantine, construction of hospitals, and similar sanatory regulations. They also report to the prefet of the department, to be submitted to the minister, such changes, improvements, and additional requirements and regulations as appear to them from time to time to become necessary.

REGULATIONS FOR SHIPS ARRIVING AT THE OCEAN AND CHANNEL PORTS SUSPECTED OR INFECTED WITH CHOLERA.

Suspected ships.—Suspected ships are not admitted to libre pratique until after a detention of twenty-four hours and a close medical inspection of the vessel. These precautions are taken even when the ship carries a regular physician.

Infected ships.—All ships upon which cholera cases have certainly or even probably occurred during the voyage are subject to rigid quarantine rules. All sick persons are sent to the lazaretto, and are subject to isolation from one to seven days, according to circumstances.

The articles in use and everything belonging to the ship liable to infection, and the ship itself, are submitted to the most thorough disinfection. The quarantine does not commence till after this disinfection to those remaining on board.

The duration of quarantine for each particular case within the limits above named is fixed by the sanatory office. In case of protest against a quarantine exceeding three days the board of health is consulted.

REGULATIONS FOR SHIPS ARRIVING AT THE OCEAN AND CHANNEL PORTS SUSPECTED OR INFECTED WITH YELLOW FEVER.

Suspected vessels.—If the voyage has lasted more than fourteen days and no case of yellow fever has occurred, the vessel, after a medical examination, is admitted to free pratique. If the voyage has been less than fifteen days, without any case of the fever having occurred on board, the persons either on board or at the lazaretto are subjected to a quarantine of from one to four days.

In the former case the vessel is not permitted to discharge until after the expiration of this time. The disinfection of such a ship is discretionary. If it is done the quarantine of the passengers does not begin until after it is finished.

Infected ship.—Every infected ship is subjected to strict quarantine.

If there are any sick on board they are immediately landed and sent to the lazaretto or elsewhere in an isolated place.

Quarantine for those who are not sick lasts from three to seven days, dating from the time of entering the lazaretto.

It is a well-established fact that the germs of yellow fever remain longer than fourteen days, and hygienic precautions are taken accordingly; yet the quarantine of persons sent to the lazaretto can often be reduced to twenty-four hours. All clothing, bedding, etc., is disin-

fected. For those remaining on board the quarantine begins after the disinfection is completed, and continues for three to five days. The board of health is consulted in case of complaint against a quarantine exceeding three days.

REGULATIONS AGAINST PLAGUE.

Suspected ships.—Ships coming under the suspicion of arriving from a country infected with plague, and having had no cases during the voyage, are submitted to a quarantine in a port having a lazaretto.

The quarantine of observation for persons either on board or at the lazaretto is from three to five days, dating from the time when the disinfection of the ship is completed.

Infected ships.—Ships arriving with cases of plague are immediately sent to the lazaretto. Persons who are not sick are submitted to a quarantine at the lazaretto, varying from five to ten days.

Strict and thorough disinfection of the effects and the ship is required. Persons remaining on board of the vessel while discharging are subject to a quarantine of five to ten days, dating from the completion of the disinfection.

FINES AND PENALTIES FOR DISOBEYING SANITARY REGULATIONS.

The penalties for infringement of the sanitary regulations in case of arrival from countries published as afflicted with contagious diseases, is death. If entering from suspected countries, the penalty is imprisonment and a fine varying from 200 to 20,000 francs.

Vessels submitted to quarantine pay by the ton for each day of quarantine 3 centimes (three-fifths of a sou, which varies little in value from our cent).

Cost per day at lazaretto: First class, 2 francs; second class, 1 franc; third class, 50 centimes.

Fees for disinfection of merchandise: Packed merchandise by the 100 kilogrammes, 50 centimes; hides by the 100 pieces, 1 franc. The disinfection of the ship is chargeable to the vessel.

There are exemptions from the charges at the lazaretto, as follows: Children under 7 years old; paupers shipped by the government or by consuls; every one sent to the lazaretto by the sanitary authority.

No sanatory fees are collected from ships of war; pleasure vessels not engaged in commerce; fishing vessels, French and foreign, which do not trade.

Quarantine rules are established by the General Government.

The General Government takes full charge and supercedes both the state and municipality.

CHAS. P. WILLIAMS,
Consul.

UNITED STATES CONSULATE,
Rouen, August 22, 1889.

Port charges upon a vessel of 1,000 *tons.*

Title of various kinds of taxes and dues.	In the ports of—									
	Antwerp.	Amsterdam.	Rotterdam.	Bremen.	Hamburg.	London.	Hull.	Liverpool.	Bristol.	Rouen.
Light dues	.22	.....	.....	.33	.....	.30	.46	.....	.....	.....
Pilot dues, entrance and departure	.74	.59	.47	.36	.52	.72	.22	.29	.68	.91
Anchorage dues	.....	.....	.....	.....	.....	.....	.62	.....	.....	.....
Harbor dues	.....	.....	.....	.....	.....	.....	.....	.....	1.05	.10
Port, river, or dock dues	.....	.....	.....	.....	.....	.10	.....	.....	.....	1.00
Deck dues:										
Tonnage	.94	.39	.95	.21	.36	1.65	1.70	1.70	1.25	.55
Goods	.....	.....	.....	.....	.31	.....	.....	1.82	.71	.....
Management	.....	.....	.....	.....	1.27	.....	.....	.....	.....	.....
Landing dues, goods	.....	.....	.....	.....	.....	.....	.47	.....	.33	.....
Town dues, goods	.....	.....	.....	.....	.....	.....	.....	1.20	.47	.....
Mayor, water surveyor taxes	.....	.....	.....	.....	.....	.....	.....	.....	.056	.....
Health dues	.....	.....	.....	.....	.....	.....	.....	.....	.....	.10
Canal dues	.....	.76	.....	.....	.....	.....	.....	.....	.....	.....
Port dues	.....	.17	.....	.....	.....	.....	.....	.....	.....	.....
Tax on movements between road and basin	.....	.....	.....	.....	.....	.29	.....	.....	.....	.....
Salvage dues	.....	.....	.....	.....	.....	.....	.....	.....	.....	.10
Miscellaneous dues	.04	.....	.04	.03	.05	.....	.....	.....	.....	.04
Towing at entry	.655	.37	.50	.93	.925	1.40	.25	.48	.52	1.00
Total of dues for each port for a sailing vessel with towage	2.60	2.28	1.97	1.86	3.44	4.20	3.41	5.49	4.12	3.30
Total for steamers without towage	1.95	1.91	1.47	.93	2.513	2.80	3.16	5.01	3.60	2.30

ROUEN SHIP BROKER'S BILLS FOR TWO AMERICAN VESSELS.

1. *Amount of disbursements and charges due by the owners of the American bark Sarah A. Staples,* 442.86 *nett. Br., H. N. Gay, master, arrived from Philadelphia and bound to Cardiff.*

	Francs.
To pilotage from sea to Villequier	223.40
To pilotage from Villequier to Rouen	77.10
Towage: up, 2 francs on cargo per ton, 1,629.10; down, 75 centimes on Rr. ton, 332.35	1,361.45
Customs dues, 443.15, 66.30, 53.25	562.70
River and harbor dues	309.50
Outward manifest and passport	2.00
Pilotages from Rouen to sea, 45.90, 31.25, 140.75	217.90
Medical fee	1.00
Noting protest and extending	25.55
Discharging cargo, 3,216 barrels at 15 centimes	482.40
Brokerage inwards	351.75
Petty expenses	7.40
Amount of ship's expenses	3,622.15
Fire guard's bill, day	45.10
Fire guard's bill, night	56.10
Bill for 100 tons ballast	100.00
	3,823.35

2. *Account of disbursements and charges due by the owners of the steamship Linda,* 1,597.53 *nett Br., O'Neill, master, arrived from Philadelphia, and bound to* ———.

	Francs.
To pilotage from sea to Villequier	650.80
To pilotage from Villequier to Rouen	149.30
Customs dues, 1,597.80, 239.55, 191.85	2,029.20
River and harbor dues, 1,118.00, 160.05	1,278.05
Outward manifest and passport	2.00
Pilotages from Rouen to sea, 90.40, 421.25	511.65
Medical fee	2.50
Noting protest	11.75
Discharging cargo, 13,434 barrels, at 15 centimes	2,015.10
Brokerage inwards on 2,938 L. at 50, 30, and 15 centimes	865.70
Consul's fees *	3.20
Amount of ship's expenses	7,519.25
Fire guard's bill	115.10
	7,634.35

* A term used by brokers. All consular fees are paid by the Government.

GERMANY.

DUSSELDORF.

REPORT BY CONSUL PARTELLO.

I have the honor to submit the following report on pilotage, light dues, and quarantine regulations, which embraces about all the information that could be obtained, for the reason that the commerce of the Rhine at this place is more of a local nature with but a limited number of vessels of foreign countries doing business, and the visit of a foreign war vessel a matter of rare occurrence.

PILOTAGE.

With the exceptions noted below pilotage on the Rhine for local vessels is not compulsory. The pilots of such ships as navigate the Rhine generally understand the channel well and have charts furnished them, with the channel well located by buoys, and all the necessary lights for night signals to prevent accidents of any kind. When damage is done to vessels, the wharves they visit, or the bridges through which they pass, they are left to settle the matter with the insurance companies or the local authorities of the place, and are held criminally responsible for carelessness or negligence. Neither is pilotage compulsory for foreign vessels of war or trade except on the Upper Rhine, between Coblenz-Bingen and Mains, where at certain points, on account of the sudden bends in the river and extreme narrowness of the channel, navigation is dangerous except with an experienced pilot, and generally one is employed to prevent accident.

The law in regard to compulsory pilotage was abolished by act of 1844. Since that date regular licensed pilots have, however, been authorized, with certificates issued to them marked classes 1, 2, and 3, according to the special part of the Rhine they are to be employed upon, the character of vessels they are to pilot, and distance or length of run.

Such pilots are generally those in the regular passenger or freight vessels, which are owned by two or three stock companies, and extra ones are taken up occasionally on foreign vessels of war or trade when required. Persons who desire to become pilots must make application and be examined before a commission consisting of an officer of the royal Government, from the department of the navy, who acts as president of the examining board, and three other experienced inspectors or pilots who have full knowledge of the channel of the Rhine.

The applicant who is examined must show to the board, first, that he has studied navigation practically for over 2 years, and that he has served as assistant to a regularly commissioned pilot; second, that he is a man of good character and has well conducted himself, and third, that he has a good common-school education. If he passes the examination he receives a patent to act as pilot. Charges for pilotage are the same for local as for foreign vessels of every character, and no flag enjoys special privileges. If it is through the fault or negligence of a pilot that the vessel is in distress, he does not receive his dues, his certificate is canceled, and other penalties imposed according to the nature of the case. The pilotage charges are regulated according to the tonnage, and those that accompany a vessel over a short distance only, such as through a bridge, receive but from 1.10 to 2 marks for this service. The pilot stations of the Rhine within the Government district of Dusseldorf are as follows, with pilot dues charged:

[In marks and pfennigs, German money.]

Pilot station.	Tons.			
	4,000.	2,500 to 4,000.	1,500 to 2,500.	1,500 and less.
Zohns, Urdenbach, Pirripp	1.50	1.25	1.00	.75
Sturselberg, Urdenbach, Sturselberg	1.25	1.00	.90	.80
Dusseldorf, Heerdt to Steinart by Hamm	1.75	1.50	1.25	1.00
Niedercassel, port at Dasseldorf, Schnellenburg	1.00	.80	.70	.60
Kaiserwerth, Leuchtenberger Ort	1.20	1.00	.90	.80
Uerdingen, Mannheim by Rasgatt	1.50	1.25	1.00	.75
Duisburg, Werthausen Ferry	.60	.50	.40	.30
Ruhrort, Homberg, Werthausen	.60	.50	.40	.30
Orsoy, Waltershoff, Bernisheim, Orsoy	1.00	.80	.70	.60
Görsiker, Hamm, Werth	1.25	1.00	.80	.70

LIGHTS USED.

There are no special regulations as to lights. The different companies and their vessels are left to their own judgment in such matters. Red, green, and white lights are used on such parts of the vessels as is the usual custom on ocean steamers. The lights are seen at short distances only on account of the vessels being so low in the water and many short bends in the river.

It is seldom that accidents occur, as Rhine vessels navigate very little at night, generally lying up at some port until morning.

LIGHT DUES.

There are no special rules as to light dues and when charged are payable at but one port or landing. As far as could be ascertained it seems to be a private matter not regulated by public law.

The dues for lighterage are payable according to an agreement, in one case the consignor and in another the consignee, as per contract, as is also the case as to insurance; but the vessels must be unloaded at ports at certain times according to the tonnage.

In regard to light-house dues proper I can not find that such charges are made on the Rhine.

TONNAGE DUES.

Tonnage dues are not charged or received for the navigation of the Rhine.

Charges are, however, made for what are known as port dues for using the harbors, and dock dues for loading and discharging at wharves, particularly constructed on the Rhine for this purpose.

The tariff charges for port and dock dues are not the same, as they differ at the different docks and ports.

Excepting the regular vessels of the Rhine the following foreign vessels navigated the Rhine during the past year, viz, 440 Belgian sailing vessels, 64 Belgian steamers, 18 English sailing vessels.

QUARANTINE.

Quarantine regulations are only in full operation at the mouth of the Rhine, near Rotterdam, and when vessels pass that point they have free access to all parts of the Rhine.

In cases where contagious sickness prevails, or during an epidemic, special regulations are enforced.

Here at Dusseldorf (the port) there exists no special quarantine regulations, and in special or urgent cases the custom is to publish such regulations in the official newspapers, and, at times, by proclamation.

D. J. PARTELLO,
Consul.

UNITED STATES CONSULATE,
Dusseldorf, Sepetmber 3, 1889.

HAMBURG.

PILOTAGE.

The Hamburg state pilots stationed at Cushaven, who pilot vessels coming from the sea into the river Elbe up to the Bösch station, have not got the character of compulsory pilots. Every vessel may enter the Elbe without the assistance of a pilot. All vessels, however, of more than 254.8 cubic metres (8998.77 cubic feet) entering the Elbe, irrespective of their nationality, are compelled to pay pilotage dues, whether they have taken a pilot or not. Vessels in distress and foreign war vessels are not exempt from these dues. From the latter, as well as from vessels which have already paid the pilot dues and thereupon return in distress, the rate of pilot dues imposed upon vessels in ballast is collected only.

The so-called Bösch pilots, who relieve the Cuxhaven pilots at the Bösch station, are also not compulsory pilots, but private pilots with a license, who alone enjoy the privilege of piloting vessels up the river Elbe.

The harbor or port pilots who guide vessels into the port and to their moorage are state and compulsory pilots, but no dues are collected for their services. The harbor-master tax is substituted for these dues. This tax is collected in conformity with the notice of December 29, 1871, herewith.

Harbor-master's fees.

	Marks.
For vessels up to 2½ metres draft	2.40
For vessels from 2½ to 3½ metres draft	4.80
For vessels over 3½ metres draft	7.20

The marine inspector is instructed to make his calculations on the basis of meters and decimetres, whereby one-half decimetre and over is to be taken as 1 decimetre, less than one-half decimetre as nothing.

Given in the meeting of the Senate, Hamburg, December 29, 1871.

LIGHT DUES.

Lights and light dues do not exist here anywhere at present. The altitude, distance visible, etc., of the lights will be found in the "List of lights of all seas," published by the Imperial German hydrographic bureau of the navy.*

TONNAGE DUES.

Tonnage dues are collected without discrimination in regard to flag from vessels arriving here, in conformity with the act of March 28, 1881, herewith. No vessels enjoy special privileges.

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* See supplement, "Foreign Lights."

SECTION 1. Tonnage dues are to be collected from sea-going vessels arriving at this port on their net tonnage, at the rate of 10 pfennigs per cubic metre.

SEC. 2. The above order is subject to the following modifications and exceptions:

I. Half of the tonnage dues, *i. e.*, 5 pfennigs per cubic metre are to be collected: (1) From arriving sea-going vessels laden with nothing but coal, cinders, coke, patent fuel, lumber, empty bottles, kindling wood, cement, cement stones, chickory root, tiles, ice, oak bark, tan bark, clay, paving stones, gauze, gypsum, broken glass, herrings, charcoal, lime, lime stone, klinkers, boneblack, chalk, empty jugs, bricks, salt, sand, slate, cattle to be killed, staves, stones, trap stone, earth, ordinary earthenware, turf, tuff, sugar scum. (2) From all vessels of 120 cubic metres and less. (3) From all vessels not arriving here from sea, which leave here in cargo for the sea. (4) From all vessels coming from sea in ballast only, when they sail from here with cargo.

II. No tonnage dues are to be collected from: (1) All vessels in ballast that leave again in ballast. (2) New seagoing vessels built entirely on Hamburg territory, however only for the direct return trip to this port from the destination of their first outward trip. (3) The Hamburg whalers, inasmuch as they are equipped only for the catch when sailing, and it is proved that the incoming cargo consists solely of products of their own catch. (4) Seagoing vessels entering this port only for the purpose of repairs on Hamburg wharves, provided that after such repairs they immediately leave this port without cargo. Pleasure boats (yachts) belonging to yacht clubs or individuals, provided they arrive and depart without cargo. (5) Seagoing vessels returning to this port on account of ice, gales, or general average, after the tonnage dues for this voyage have already been paid, provided they leave again with the same cargo. (6) Vessels arriving from sea laden with fish, lobsters, oysters, etc., as also vessels carrying passengers to and from Heligoland, Föhr, and Norderny, as long as they are employed for this purpose only.

SEC. 3. The collection and control of the tonnage dues shall be placed in the hands of the department for indirect taxes and dues. Every shortening of the dues or evasion of the prescribed control, will be punishable with a fine of from 1 to 50 marks setting aside, besides subjecting to penal prosecution.

Given in the meeting of the Senate, Hamburg, March 28, 1881.

QUARANTINE.

For quarantine the accompanying act of July 11, 1883 (inclosure 1), regarding the sanitary police control of vessels entering a Hamburg port, is determinative.

These orders have been issued upon the strength of an agreement between the German maritime States, and are valid for all.

The expense of surveillance and disinfection of the passengers and vessel is borne by the Hamburg State. There exists, however, the following tax for the examination of the vessel, as well as for the medical visits on board of the same:

	Marks.
For examination of the vessel, including boatage, stamp, etc	30.00
For vessels ordered into quarantine which have already received their clearance papers on the same voyage	7.20
For each visit of the physician, including boatage, for a vessel under observatory quarantine	9.00
With a maximum for all visits of	30.00
For guards per day and person	3.60

CHAS. F. JOHNSON,
Consul.

UNITED STATES CONSULATE,
Hamburg, September 30, 1889.

QUARANTINE LAWS OF HAMBURG.

[Inclosure 1 in Consul Johnson's Report.]

* * * * * * *

SECTION 1. Every vessel entering a Hamburg port is subject to the sanitary police control:

(1) If it arrives from the Black Sea, from a port of Turkey or of the Turkish isles, excepting the districts situated on the Adriatic Sea, but including Asia Minor, Syria,

and the north coast of Africa east of Algiers; from the Persian Gulf, from the Red Sea, or from the west coast of Africa north of Cape Town, up to the Straits of Gibraltar.

(2) If it arrives from a port which according to a proclamation of the chancelor or other authentic information must be regarded as suspicious of being infested with plague, cholera, or a contagion of yellow fever, confined not only to sporadic cases.

(3) If during the voyage it has connection with one of the ports mentioned in (1) and (2), or with a vessel having touched at one of these ports; or

(4) If during the voyage a case of sickness has taken place having the suspicion of plague, cholera, or yellow fever.

SEC. 2. A vessel subject to sanitary police control must immediately hoist the quarantine flag as soon as it gets in sight of port. The latter consists of a yellow flag, and is to be hoisted on the foremast.

With the exception of taking on board a pilot or engaging a tug, the vessel shall neither communicate with the shore nor with another vessel, and shall also not take down the quarantine flag until it has received permission to proceed from the competent authorities. (Sec. 5.)

The same restraints are placed upon all other persons on board of the vessel besides the crew.

The pilots and harbor police authorities are directed to see that these instructions are carried out, and to ascertain, by questioning the master or his representative, whether section 1 applies to the vessel.

SEC. 3. In such cases as are covered by section 1 the master or his representative is to be served with a blank form of questions as hereto attached. On the same the master, the mate, and the surgeon, provided the surgeon has made the voyage in such capacity, shall give the desired information in such manner that they can, if called upon, verify their statements under oath. The blank form, when filled out, must be signed by the master, the mate, and the surgeon, if there be one, and held in readiness and at the disposal of the authorities with the other ship's papers.

SEC. 4. Intercourse with a vessel flying the quarantine flag shall not be allowed private individuals. He who shall act contrary to this order shall be looked upon as belonging to the vessel under supervision.

SEC. 5. The vessel (sec. 1) is immediately permitted to proceed if (1) during the whole voyage no case of sickness suspicious of being plague or cholera, or if during the last fourteen days of the voyage no case suspicious of being yellow fever has presented itself; also (2) if the vessel has had no intercourse during the voyage with a suspicious vessel (secs. 1, 2), and also (3) either if the vessel has in a noninfected port of the German Ocean or Baltic Sea been subjected to a sanitary police control, and has there been permitted to proceed, or if it is in possession of a bill of health, issued by a competent German consular officer, at latest forty-eight hours before the departure of the vessel, which bill of health has been renewed in each one of the ports mentioned in section 1 at which the vessel has touched, and which bill of health certifies that in the port of departure (or in such ports as have been called at during the voyage) and in the vicinity thereof no cases of plague or cholera whatever, nor of yellow fever, except perhaps sporadically, have taken place.

SEC. 6. Should even one of the suppositions of section 5 not prove to exist, the vessel must, unless it again proceeds to sea, cast anchor at the spot prescribed, and is then subject to the inspection of the quarantine physician or his substitute.

SEC. 7. The vessel shall be permitted to proceed if the result of the inspection is favorable in every respect (vessel, persons, cargo). Otherwise the directions in sections 8 and 10 shall be enforced.

SEC. 8. If there are persons on board who during the voyage have suffered with the plague, cholera, or yellow fever, or who are at the time suffering with one of these diseases, or who are suspicious of being affected therewith, they are to be immediately removed to an isolated building; suitable for the reception and treatment of such patients, the actually sick ones being separated from those only suspected of being affected. They are to remain there until convalescent, or until all grounds for suspicion have been set aside. If there are bodies of such persons on board, they are to be buried with the necessary precautions. Clothes, linen, and bedding which have been used by persons having been affected by the above-mentioned diseases must be destroyed; the other effects of such persons and the ship compartments which they have been occupying shall be disinfected.

The crew and passengers on board of such a vessel (sec. 1,) are to be subjected to medical supervision in an isolated space. The duration of the supervision, reckoned from the day of isolation, shall be: For suspicion of plague, seven days; for suspicion of cholera, six days; for suspicion of yellow fever, six days, provided the arrival takes place during July or August; in all other cases at the most six days. The duration of the supervision is to be proportionately shortened if the suspicion of disease existing proves wrong before the expiration of the prescribed term.

The clothes of persons under supervision are to be disinfected or destroyed; their

other effects and the vessel's compartments occupied by them are to be disinfected. According to circumstances the disinfection is also to be extended to the persons themselves, including even the nurses and servants. Persons who fall sick during the term of supervision are subject to the directions in section 1 and 2.

The pilot who was on board is to be disinfected at the discretion of the examining physician.

SEC. 9. If the vessel has on board infectious goods from such parts as must, accord ing to section 1 and section 2, be regarded as suspicious of plague, or if the vessel has taken on board at such places infectious goods, the same can only be placed upon the market after they have been rendered harmless. These goods may be reëxported, but without transshipment.

In the spirit of these directions, the following articles are particularly to be regarded as infectious:

Tatters or rags, used linen or bed linen, used clothes, paper clippings, flax, hemp, oakum, animal refuse (bones, bladders, guts, etc.), hides, skins, hair, bristles, feathers, wool, felt, fur, woolen or silk goods.

The vessel's compartments, in which such articles of suspicious origin (section 1) have been kept, must be disinfected.

SEC. 10. The bilge and its contents of vessels coming under sections 1, 2, and 4 are to be disinfected. According to circumstances the disinfection is also to be extended to other parts of such vessels.

SEC. 11. In cases of disease, the nature of which has not yet been decided, the vessel may be subjected to an observatory quarantine, according to circumstances; and if necessary, further experts may be consulted.

SEC. 12. If the precautionary measures prescribed in sections 8 to 11 can not be complied with in a port, then the vessel is to be directed to a port possessing the necessary arrangements.

SEC. 13. Should a vessel subject to the measures prescribed be wrecked on the German coast, the coast authorities shall take the necessary precautions in the spirit of these orders.

If such a vessel enters a German port in distress, it can remain there under the quarantine flag, under guard and surveillance of the port authorities, until the exigency is set aside, and it may receive the necessary assistance.

SEC. 14. These measures and prescriptions do not apply to the vessels of the imperial navy.

KIEL.

REPORT BY CONSULAR AGENT SARTORI.

PILOTAGE.

Pilotage is not compulsory for any ships, either German or foreign.

When pilotage is requested, the charges are the same for German and foreign ships. No foreign flag enjoys special privileges. Also ships in distress and foreign war vessels pay pilotage charges.

The pilotage charges are: 6.50 marks per metre from the 1st of October to the 31st of March, and 4.90 marks from the 1st of April to the 30th of September.

LIGHTS AND LIGHT DUES.

Here are the following lights:

(1) *The lighthouse of Bülck:* Latitude, 54° 27′ 4″; longitude, 10° 12′ 1″; one fast white light, altitude 30. 2 metres (101 feet, 15 inches); distance visible, 15 miles.

(2) *The light-house of Friedrichsort:* Latitude, 54° 23′ 5″; longitude, 10° 11′ 8″; from the 1st of October a fast white light and a revolving light; within an arc of 9½°, between the howl buoy east of Bülck, and the Light buoy north of Laboe—consequently in the track—the light is to be seen as a white fast one; east of this, between the light buoy and high shore of Laboe, within an arc of about 15°, the light is visible as a revolving light, with five quickly-repeating flashes, and west of the fast

light, between the howl buoy and the high shore of Bülck, within an arc of about 23°, the light is to be seen as a revolving light with two quickly-repeating flashes; the flashes endure about 2 seconds, the eclipse between the flashes about 1 second, and on the five flashes follows an interference of 9 seconds, and on the two flashes such one of 15 seconds; distance visible, 9 miles.

(3) *The light of Kitzeberg:* Latitude, 54° 21′ 8″; longitude, 10° 10′ 9″; one fast green light, altitude 7.5 metres (25 feet); distance visible, 4 miles.

(4) *The light of Düsternbrook:* Latitude, 54° 20′ 3″; longitude, 10° 9′ 6′; one fast red light, altitude 6.9 metres (22 feet); distance visible, 4 miles.

(5) *Two lights of Wilhelminenhöhe:* Latitude, 54° 19′ 2″; longitute, 10° 9′ 1″; two red lights, altitude of the first 6.8 metres (22 feet), of the second 7.5 metres (25 feet).

Light dues are not charged at Kiel.

Tonnage dues.—Such are to be paid as per inclosed tariff.

AUGUST SARTORI,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Kiel, August 20, 1889.

LUBECK.

REPORT BY CONSULAR AGENT MEYER.

PILOTAGE.

Pilotage is compulsory for all German and foreign vessels. No foreign flag enjoys special privileges. Vessels in distress pay half pilotage. Foreign war vessels have to pay pilotage if demanded by them.

LIGHT DUES.

Light dues are not collected. They are included in the port dues, and are the same for steam and sail, laden or in ballast. The taxes on navigation in the port of Lubeck consist in harbor dues and pilot dues.

The general character of the lights leading into the bay of Lubeck from the Baltic are the following:

	Height of light above middle water.	Visible.
	Metre.	*Miles.*
Adlergrund, w. fl. l.	11.2	11
Arkona, w. and r. l.	65.7	22
Darserort, w. fl. l.	33.0	16
Warnemünde, w. l.	17.6	12
Buk, w. and r. fl. l.	95.8	*17 †14
Timendorf, w. l.	18.5	10
Travemünde, or Poel, w. l.	30.8	16
Pelzuhaken, w. l. with fl	14.0	12
Dahmerhöft, w. brill light	33.0	14
Marienleuchte, w. fl. light	28.9	15

* White. † Red.

As to American vessels in the port of Lubeck, there are no charges collected for light dues. The rate charged for harbor dues is per cubic metre, collected from the shipmaster direct. The port of Lubeck charges its own shipping engaged in the foreign or coasting trade no light-house dues.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels entering the harbor of Lubeck, whether on the foreign or coasting trade, laden or in ballast, excepting steamers on coasting trade making three or more regular voyages, paying only for two voyages. There is no discrimination in regard to flag.

QUARANTINE.

The quarantine rules are established by the state of Lubeck; the General Government takes no charge and does not supercede the same.

JACOB MEYER, JR.,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Lubeck, August 17, 1889.

GREECE.

REPORT BY CONSUL HANCOCK, OF PATRAS.

PILOTAGE.

Pilotage is not compulsory in this country, and the Government does not control it. The practice at this port is that a so-called pilot, recommended by the harbor master, directs where ships are to moor, for which he gets $25 from large vessels and half this amount from small, but it is more a present than a charge.

LIGHT DUES.

By a law dated 28th of May, 1887, old style, vessels coming from a foreign port with cargo to land, and subsequently loading cargo, pay the full charge of 6 cents per ton. If only to discharge or only to load, 4 cents per ton. If neither to discharge nor load, 1.9 cents per ton. At a second, or subsequent ports, half of above charge. These dues are payable by native and foreign vessels, whose Governments have treaties with Greece, and therefore American vessels would come under this category. Foreign vessels whose Governments have no treaties pay double these rates.

The Greek mail steamers and some foreign mail steamers, which have special conventions, pay 1.9 cents per ton only at first port, and nothing at subsequent ports. The dues are collected through the custom-house, and are only payable where there is such.

The lights are all of the first, second, third, and fourth grades, and are visible 20 miles, 15 miles, 10 miles and 5 miles respectively.

TONNAGE DUES.

There are no tonnage dues, but vessels pay mole (pier) dues, according to regulations established at different ports, varying from 5 to 15 cents of a drachma.* The charge here is 1.9 cents per ton.

Native and foreign vessels pay alike.

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* Drachma—19.3 cents American; 100 Greek cents in drachma.

QUARANTINE.

Quarantine is put against all contagious diseases; the duration is established according to circumstances, and is controlled entirely by the Government.

E. HANCOCK,
Consul.

UNITED STATES CONSULATE,
Patras, August 12, 1889.

HOLLAND.

AMSTERDAM.

REPORT BY VICE-CONSUL BRINK.

PILOTAGE.

Pilotage is compulsory for all vessels employed in the merchant service, Dutch as well as foreign.

Pilotage charges are the same for foreign vessels as for Dutch vessels. No foreign flag enjoys any special privileges.

Vessels in distress, putting into a Dutch harbor for repairs or by stress of weather and leaving with the same cargo, pay only half pilotage.

Pilotage is not compulsory for foreign war vessels, which may enter and leave any Dutch harbor, canal, or river without taking a pilot or incurring pilotage. If, however, a pilot be taken, the ordinary pilotage for merchant vessels is charged.

LIGHT AND TONNAGE DUES.

Neither light dues nor tonnage dues are levied from any flag, such dues not existing in Holland.

QUARANTINE.

Quarantine is imposed on vessels arriving from ports infected with cholera, yellow fever, smallpox, or typhus. In case vessels arrive from such ports without cases of sickness on board, the medical inspector goes on board on arrival, but generally frees the vessel in such instances at once from further medical observations. In case any of the crew or passengers are sick on arrival of the ship with one of the above-mentioned diseases, the medical inspector is empowered to order such vessel into quarantine for such a period as he may deem advisable.

The expenses of detention and disinfection are borne by the ships; the duration of the detention at and from each port is left to the medical officer's judgment.

Quarantine rules are established by the general government for all Dutch ports.

AL. BRINK,
Vice and Deputy Consul.

UNITED STATES CONSULATE,
Amsterdam, August 13, 1889.

ROTTERDAM.

REPORT BY CONSUL ELLIS.

PILOTAGE.

Pilotage is compulsory in all cases in the ports of the Netherlands, both for home seagoing and foreign vessels; that is to say, pilotage dues must be paid before a clearance at the custom-house will be issued.

The pilot charges are the same for the home as for foreign vessels. No foreign flag enjoys any special privileges in the matter of pilot charges.

Vessels in distress pay half pilot charges on entering the port, and like charges on going to sea. Foreign war vessels, flying their distinctive colors, or carrying their requisite distinctive signs, are not required to take a pilot.

Certain vessels are exempted from taking a pilot:

(*a*) Ships of war, whether Dutch or foreign, carrying the requisite distinctive signs.

(*b*) Vessels belonging to Dutch or foreign yacht clubs, recognized as such.

(*c*) Foreign pilot-boats, lawfully licensed and carrying the requisite distinctive signs.

(*d*) Vessels in the Government pilotage service, or those employed in laying buoys; yachts and other vessels in the service of the navy and dockyards, as also custom-house boats.

(*e*) Lifeboats, when employed in that kind of service.

(*f*) Inland vessels, provided with sea passports, which, without being bound for sea, or not returning from a sea voyage, navigate in the rivers and inland waters.

(*g*) Inward or outward bound vessels, limiting each voyage partially or wholly to *Fresche*, the *Groninger* or *Nithenzer wad* (shallow waters on the North Holland shore).

(*h*) Steamboats employed as tugs or making experimental trials in the outlets or inland waters, provided in both cases they carry no other goods nor persons but such as are comprised in the ship's inventory and crew.

(*i*) Vessels sailing from an inland harbor to be repaired, or, after having been repaired, returning without freight to their respective ports.

(*k*) Vessels in ballast with a draft of water under 19 decimetres.

(*l*) Ships and vessels with a draft of water under 35 decimetres, exclusively when navigating in the Government Noordhollandsch Canal.

(*m*) Dutch fishery smacks, exclusively employed in catching fish or taking shells, or in transporting fresh and salt fish or shells, provided they have no merchandise on board.

LIGHTS AND LIGHT DUES.

Light dues on vessels of all kinds, laden or in ballast, have been abolished.

The lights are of varied characters, as to altitude, distance visible, etc.

TONNAGE DUES.

There are no tonnage dues known here by that name, but there are harbor dues, which are charged upon the tonnage of the vessel.

These harbor dues are charged without any discrimination in regard to the flag carried. They are charged in all cases, the vessels of no nationality enjoying any special privileges therein.

QUARANTINE.

No vessels are inspected at quarantine unless the master of the vessel gives notice that he has come from an infected port, or that he has or has had a case of one of the diseases to which the laws of quarantine apply on board of his ship.

The list of diseases quarantined are pest or plague, cholera, and yellow fever.

The duration of the detention is fixed in two ways: The vessel, if the master wishes to keep his crew on board, is moored or anchored at a point in the river near the entrance to the harbor, and there kept until the quarantine physician declares there are no further cases of disease on board; or the diseased persons may be put in the hospital barracks, on the land near to the entrance of the harbor, and upon the vessel being fumigated under the direction of the quarantine physician she may go into the harbor after two or three days' detention.

The expenses of detention fall upon the vessel itself. The expenses of fumigation of the passengers, crew, and cargo are borne by the Government of the Netherlands.

The quarantine rules are declared by the Government of the Netherlands, which has exclusive control of all matters relating to quarantine.

HOWARD ELLIS,
Consul.

UNITED STATES CONSULATE,
Rotterdam, October 30, 1889.

ITALY.

REPORT BY VICE-CONSUL-GENERAL WOOD, OF ROME.

PILOTAGE.

There are only two ports in Italy in which pilotage is compulsory, namely, Venice and Fiumicino, and for these two ports it is equally compulsory for Italian as well as foreign vessels.

PORT CHARGES.

Pilot charges are the same for Italian as well as foreign vessels. No foreign flag enjoys special privileges in this respect. All vessels in distress and all foreign war vessels pay pilotage whenever a pilot is employed.

In all the ports of the Kingdom except two, Naples and Genoa, pilotage is levied on the registered tonnage of vessels, but at Naples and Genoa it is made on the draft of vessels.

Pilot charges are established by law. They differ, however, considerably according to ports. The following shows the charges fixed for the three ports of the consular agencies in this district:

1. Ancona:

	Lire.
Up to 100 tons (registered)	15
From 101 to 200 tons	20
From 201 to 300 tons	30
From 301 to 400 tons	40
From 401 to 500 tons	50
From 501 to 600 tons	60
All over 600 tons	70

2. Cagliari:
   5 centimes per registered ton.
3. Civita Vecchia:
   10 centimes in (5 centimes out) per registered ton up to 1,000 tons; overplus not charged.

However, at Civita Vecchia pilotage can not be less than 15 lire and not greater than 100 lire.

LIGHTS AND LIGHT DUES.

There is no such charge or fee as light dues in the marine service of Italy, either for vessels in the foreign or coasting trade, or Italian or foreign vessels.

Along the entire coast line of the Kingdom, including Sicily and Sardinia, measuring a total of 3,424 geographical miles, there are 129 lighthouses and 128 port and other lights, making 257 in all.

The character of the lights, the apparatus used, their altitude, and distance visible are shown in the following table:

	Character of light.			Apparatus.				Altitude above sea level.				Distance visible.				Total of light-houses and lights.
	Fixed.	Flash.	Intermittent.	Dioptric.	Catoptric.	Gas.	Petroleum.	Less than 25 metres.	From 25 to 50 metres.	From 50 to 100 metres.	From 100 to 200 metres.	Up to 10 miles.	From 10 to 15 miles.	From 15 to 20 miles.	From 20 to 30 miles.	
Continental Italy	126	44	3	154	16	2	1	120	29	15	9	114	26	18	15	173
Sicily*	35	20	2	52	4	1	....	27	22	7	1	31	11	12	3	57
Sardinia	20	7	....	24	1	2	....	15	1	7	4	16	1	5	5	27
Total for Kingdom	181	71	5	230	21	5	1	162	52	29	14	161	38	35	23	257

* Including three in the Lipari Islands.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels, whether in the foreign or coasting trade, laden or in ballast. In the Italian marine service these dues are known as "tassa d'ancoraggio" (anchorage tax), which is the only general port fee or charge levied.

These dues are, for all the ports of the kingdom, as follows:

Italian tonnage dues (tassa d'ancoraggio).

[Per ton, lira.]

	Steamers.		Sailing vessels.		
	From abroad.	From Italian ports.	From ports outside the Mediterranean Sea.	From Mediterranean ports.	From Italian ports.
For each port	1.00	0.50	.....	.....	.....
Subscription for one year	4.00	2.00	.....	0.80	.....
From 1 to 100 tons	.....	.....	0.50	0.50	.....
Over 100 tons	.....	.....	0.80	0.60	0.70
From 1 to 50 tons	.....	.....	.....	.....	0.20
From 51 to 100 tons	.....	.....	.....	.....	0.40

War vessels of all nations are exempt from tonnage dues, as are also the following: pleasure vessels, fishing boats engaged along the coast of the kingdom, boats carrying passengers and merchandise to and from vessels at anchor, and vessels not engaged in commercial operations which do not remain over 15 days in Italian ports.

There is no discrimination with regard to flag on tonnage dues, except in the case of the French. Vessels carrying that flag now pay double the rates given above. No vessels of any nation enjoy special privileges.

QUARANTINE.

Provisions are made for quarantine in case of need by the General Government, that is, by decrees of the minister of the interior at Rome. In such decrees the minister cites the law and regulations concerning public health, states the news received as to the health of any given ports or countries at home or abroad, orders quarantine, fixes duration thereof, and charges the prefects of maritime provinces, port captains, and other port officers with enforcing the same.

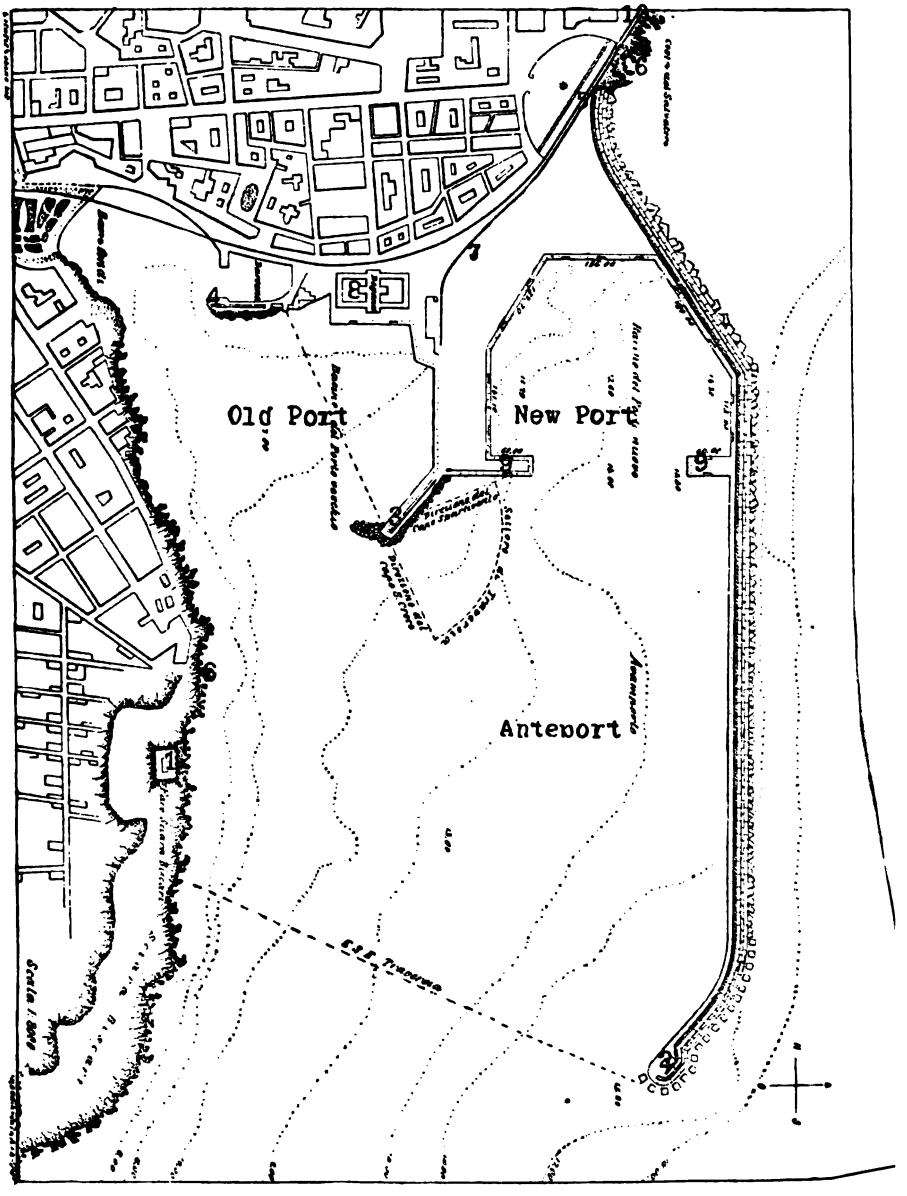
There is no fixed list of diseases subject to quarantine; they are, however, usually cholera, plague, yellow fever, and smallpox; but any other contagious disease deemed dangerous to the public health may be quarantined.

In recent years yellow fever is the only disease for which vessels from the United States have been quarantined in the ports of Italy.

There is no fixed duration of quarantine for or from each port. Duration varies, case by case, according to circumstances. However, since the last year of the recent cholera visitation, namely, 1886, the tendency has been to greater liberality in establishing the duration of quarantine. No European nation is more sensitive to the danger of contact with infected vessels than Italy. This is owing to climatic reasons, and also in a great degree to its proximity to the continents of Asia and Africa, for it is through the ports of those continents that plague and cholera have generally reached Europe.

The expenses of detention of passengers for quarantine are at their own charge, with certain exceptions explained here below; those relating to cargo are paid by the vessel. They are both fixed by law and are as follows:

Sojourn in lazaretto per day: For each first-class passenger, 3 lire; second-class, 2; third class, 0.80. For each dog, ovine animal, swine, etc., 2 lire; horse, bovine animal, etc., 5.



PORT OF CATANIA.

Merchandise subject to quarantine, disembarked and disinfected in lazaretto: Rags, cordage, horns, etc., 0.50 lira per quintal; * leather of all kinds, 1; skins and hides of sheep, goats, etc., 0.50; wool, flax, hemp, cotton, and paper, 0.50; raw silk and textiles, 5.

Medical visits are charged from 3 to 5 lire according to port.

The class of passengers exempted from the foregoing charges are children under 7 years of age; indigent persons who are being transported at Government expense; the civil and military employés of the Government; communal employés; and line-men of the army and police force.

Quarantine rules are established by the General Government at Rome, and not by provinces or municipalities.

In case provinces or municipalities were to establish quarantine rules or quarantine, the General Government could take charge and supersede the former. This actually occurred during the late cholera visitation, 1884 to 1886; for the General Government reserves to itself the sole right to jurisdiction in matters of quarantine and quarantine regulations.

CHAS. M. WOOD,
Vice and Deputy Consul-General.

UNITED STATES CONSULATE-GENERAL,
Rome, August 26, 1890.

CATANIA.

REPORT BY CONSUL LAMANTIA.

PILOTAGE.

Pilotage in the ports of this consular district is not compulsory for vessels of this country, neither for foreigners.

Pilot charges are payable on the same footing, with no exception.

Foreign war vessels and vessels in distress pay pilotage when they engage pilots.

The pilot charges are as follows:

	Lire.
Inward vessels of 50 tons register	15.00
From 50 to 100 tons	25.00
From 101 to 150 tons	30.00
From 151 to 200 tons	35.00
From 201 to 250 tons	41.00
From 251 to 300 tons	48.00
From 301 tons and upward	55.00

Outward vessels pay one-half of the above charges, according to tonnage, by applying to the head pilot at the health office.

LIGHTS AND LIGHT DUES.

There are no such dues to be paid in the ports of this consular district.

The altitude of the light standing on the point called "Sciara-Biscari" about a quarter of a mile southwest of this city, is 29½ metres above the sea level, and is visible at a distance of 15 miles in clear weather, flashing every minute.

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* 1 quintal = 220.464 pounds.

The altitude of the steady light, a catadrioptrical apparatus, temporarily constructed at the head of the new mole, is 11 metres above the sea level and visible from 5 miles. Another of the same apparatus, but of green color, stands at the head of the old mole, is 11 metres high and visible from 4 miles. A fourth one, also in green color, but of no importance, is located at the end of the old quay in the inner harbor and is only 5 metres high and visible from 1 mile.

The light at Syracuse is 25 metres above the sea level and is visible from 7 miles.

There is no light at Terranova, and the nearest one is at "Punta-Secca," 37 metres high and visible from 16 miles.

TONNAGE DUES.

Tonnage dues are collected the same from all classes of national and foreign vessels, equalized by virtue of treaties, the law of which is as follows:

MARITIME DUTIES AND FEES.

A.—*Anchorage dues.*

[Extract from the law passed December 6, 1885.]

ART. 16. All national steam and sailing vessels and all such foreign vessels which, according to treaties, are equalized to the former, that arrive in the Italian ports from any foreign port for trading purposes, shall pay the following anchorage dues, viz:

	Lire.
(*a*) Steamers per ton register	1.00
(*b*) Sailing vessels above 100 tons register	.80
(*c*) Sailing vessels under 100 tons register	.60

ART. 17. All national sailing vessels or such foreign vessels which, according to treaties, are equalized to the former, exclusively trading in the Mediterranean, limited within the Straits of Gibraltar, Dardanelles, and Suez Canal, shall pay for each arrival in the Kingdom anchorage dues at the rate of 0.60 lira per registered ton, subject to the provision of the preceding article, letter C. These vessels, however, may be exempted from the above dues through the payment of 0.80 lira per each registered ton, once in a year, independently of the number of arrivals they effectuate within such period.

ART. 18. All national sailing vessels and all such foreign vessels which, according to treaties, are equalized to the former, that have paid in a home port the dues mentioned in articles 16 and 17, can freely trade for a period of four months in the Kingdom without any other payment of such dues, and provided in such period they do not call at any foreign port unless through stress of weather.

ART. 19. All national steamers and all foreign steamers which, according to treaties, are equalized to the former, that are trading exclusively in the Kingdom, without calling at foreign ports, except for stress of weather, shall pay as anchorage dues 0.50 lira for each register ton.

ART. 20. All national sailing vessels and all such foreign vessels which, according to treaties, are equalized to the former, that are exclusively trading in the Kingdom, shall be exempt from anchorage dues by paying 0.70 lira for each register ton, and for each twelve months, if their register capacity is superior to 100 tons; and 0.40 lira if their register capacity is superior to 51 tons, and 0.20 lira if their register capacity is inferior thereto.

ART. 21. All national steamers or foreign steamers equalized according to treaties to the former, that are trading as per articles 16 and 19, shall pay the dues therein fixed once within every thirty days from their first arrival in the Kingdom. They may, however, by paying the quadruple of the amount due, be exempt from any further payment for a period of twelve months.

ART. 22. All vessels, sailers and steamers, that take in or discharge a quantity of goods not exceeding one-tenth of their register tonnage, shall pay only one-fourth part of the anchorage dues, and all these that shall discharge or load a quantity of goods not exceeding one-fifth of their register tonnage shall pay the one-half only of the anchorage dues. When such vessels shall take or land passengers only, and not goods, instead of the above dues it will have faculty to pay 10 lire for each passen-

ger. All steamers and sailing vessels which, after having paid in the Kingdom the dues herein mentioned, should arrive in other ports of the Kingdom to ship or land goods or passengers, shall pay tonnage dues in accordance to their register tonnage, deducting therefrom the amount already paid in the previous port.

ART. 23. All tugboats for harbor services shall pay one anchorage duty every twelve months, at the rate of 2.50 lire per ton. Such dues, however, not to be under a total amount of 30 lire.

ART. 24. The following are exempt from anchorage dues:

(*a*) Men-of-war of all nationalities.

(*b*) Yachts or pleasure vessels of any nationality, reckoned as such by their respective governments, and provided that they do not take any goods or passenger trade in the Kingdom.

(*c*) Fishing boats and transport lighters, adapted for local commercial uses, which trade within the limits prescripted by the mercantile code.

(*d*) Vessels entering ports by stress of weather or otherwise, provided they do not perform any commercial traffic and do not remain in port beyond fifteen days, except in cases of necessity, acknowledged by local authorities.

(*e*) Vessels just launched from dockyards in the Kingdom requiring final equipment for navigation.

ART. 25. Anchorage dues are payable before a vessel clears out of a port. Vessels made mention of in articles 17, 20, 21, and 23 shall pay their respective dues at the commencement of every twelve months. Steamers mentioned in the first paragraph of article 21 will pay at the first port of arrival.

ART. 26. The anchorage dues are payable on the net registered tonnage for both classes of vessels. Fractions of tonnage over a fifth are considered as units; less than that are not accounted for.

ART. 27. Foreign vessels not admitted in above-stated treaties shall pay double rate of the tax fixed by articles 16 and 17 of the present law.

ART. 28. For the application of the anchorage dues, sending boats on shore for either delivering or receiving letters or samples, or refreshing provisions, calls, and other articles necessary for the vessels to complete their voyages, are not considered as commercial operations, all of which will be considered by the maritime authority. The embarkment or landing of passengers is considered the same as taking or discharging cargo, except in cases of sickness or stress of weather, recognized by local authorities. All persons who are not named in the ship's papers are considered as passengers.

QUARANTINE.

Quarantine rules are applied according to circumstances and events. The diseases quarantined are all such that bring contagion, and the duration of quarantine is from 3 to 21 days. The expenses of detention are borne by the parties interested, and those for fumigation by the local board of health. Quarantine rules are established by the general Government, and the board of the municipality has to carry them out.

No publications concerning the foregoing subjects could be obtained here.

VINCENT LAMANTIA,
Consul.

UNITED STATES, CONSULATE,
Catania, August 17, 1889.

GENOA.

REPORT BY CONSUL FLETCHER.

PILOTAGE.

Pilotage is voluntary for commanders of all vessels either on entering the port of Genoa or departing therefrom. The same pilot fees are paid by Italian and vessels of other nationalities. No special privileges are granted vessels of any nation in this respect.

Vessels in distress and war ships have to pay pilotage.

LIGHTS AND LIGHT DUES.

No light dues are charged at this port for vessels of any nationality.

The lights around and in the harbor of Genoa are as follows:

A first-order light is situated west of the entrance to the port, at a place called Cape Ferro, at an elevation of 385 feet above the sea. The yellow tower on which it revolves is equilateral rectangle or square in form. The light is white in color and very brilliant; its most brilliant flashes occur once every minute, and can be seen at a distance of 27 miles. Following those flashes are short eclipses, but they are not total, as they are visible, 14 miles distant.

A sixth-order light is situated at the shoal battery (Batteria della Scuola), southeast of the port, at an elevation of 92 feet above the sea and 33 feet from the shore. This is also an intermittent white light, and produces bright flashes every fifteen seconds which are visible 12½ miles distant. During the short, partial eclipses the light is still visible 7¾ miles distant. The tower on which this light rests is circular in form, gray in color, and built of stone.

Another sixth-order fixed white light, visible 9 miles distant, and 29½ feet above the sea, is exhibited on an iron column situated at the head of the western mole.

Two other fixed lights, one green and one red, can be seen at the mouth of the port. The green light is 93½ feet above the sea and visible 4.4 miles distant; it is situated at the extremity of the old mole or sea wall. The red light, visible 4.6 miles off, is situated at the extremity of the new mole; it is 68 feet above the sea level.*

TONNAGE DUES.

Tonnage or anchorage dues, as they are called here, are collected from vessels of all nationalities, including Italian, no matter whether they are laden or in ballast, or in the foreign or coasting trade. The only exemptions are:

(1) War vessels of all nationalities.

(2) Pleasure yachts, whether run by steam or sail, under any flag, provided they are acknowledged as private property by their respective governments and do not transact any other business in port than to make such purchases as would enable them to continue their voyage.

(3) Vessels entering the harbor either voluntarily or by force of circumstances, providing they do not land passengers or discharge freight, or ship passengers or merchandise, and, providing further, that they do not remain in port more than fifteen days, unless compelled to by superior force or adverse weather.

By treaty several nationalities enjoy the same privileges for their vessels as those sailing under the Italian flag. Since the treaty, dated February 26, 1871, between Italy and the United States American vessels are classed on an equality with those sailing under the Italian flag.†

Vessels from countries not in treaty with Italy pay double the tax or dues prescribed for vessels of so-called favored nations.

* The information in this report concerning the lights was obtained from Baron Ruggera, captain of the port, the highest official authority on such a subject in Genoa.

† A list of favored nations, dates of treaty with Italy, tonnage dues, etc., will be found in my dispatch No. 155, sent to the Department July 30, 1887.

QUARANTINE.

There are no permanent rules regarding quarantine. The General Government takes upon itself entire control of this matter and issues its sanitary bulletins as occasion requires. An order promulgated to-day may be rescinded 1 day or 1 week later, consequently the duration of quarantine can not with any accuracy be stated. The Government acts with great promptness when contagious diseases are known to exist—either in foreign ports or in any port of this kingdom. From personal observation I can say that no more favors are granted home ports than those outside King Humbert's domain when epidemics prevail. A strong proof of this statement was illustrated nearly 3 years ago (November, 1886), when the Government declared the port of Genoa "foul." The municipal authorities denied at that time the existence of cholera here, and, backed by both the press and people, protested against the orders issued by the minister of the interior. The protest passed unnoticed until the death rate was reduced to the usual weekly average.

The diseases quarantined are plague or pest, cholera, yellow fever, and smallpox, typhus and enteric fever in epidemic form.

Not until the 17th instant could I obtain a clear reply to the question "Who bears the expenses of detention and fumigation as to passengers and cargo?" The Marquis Durazzo, chief director of the Veloce line of steamers (La Veloce Navigazione Italian) which ply between Genoa and all South American ports, answers the interrogatory as follows: The expenses incurred by steamers and sailing vessels placed in quarantine are paid by the captains thereof. A clause is printed on all tickets that passengers must bear their own expenses if they remain on board ship during quarantine. The master of the vessel fixes the price per day, but it is the experience of the Veloce company that very few passengers pay a cent under such circumstances, as most of them plead inability to do so. If placed in the Government lazaretto, the officers in charge furnish food on the following terms: First-class passengers, 3 francs per day; second-class passengers, 2 francs per day; third-class passengers, 80 centimes per day. Dogs, swine, or other like animals, 2 francs per day; horses, cows, and similar animals, 5 francs per day.

JAMES FLETCHER,
Consul.

UNITED STATES CONSULATE,
Genoa, September 19, 1889.

FAVORED NATIONS' TREATIES, ETC.

[Report of July 30, 1887, referred to in foregoing report of Consul Fletcher.]

When procuring the information called for in Department circular, dated May 26, 1887, regarding the dues or fees imposed on vessels of the United States on entering the port of Genoa, and also the duties or fees imposed on vessels of the Netherlands, compared with the fees, dues, etc., imposed on vessels carrying the Italian flag, I was informed by the captain of the port that ships from the United States are taxed double the amount demanded from vessels sailing under the flag of the Kingdom of Italy. Further, by an old treaty, vessels of the Netherlands pay the same as Italian ships.

No fees or dues are imposed on the cargoes of vessels of any nationality. Further inquiry revealed certain other facts, which are hereby respectfully submitted.

It appears that several nationalities besides the Netherlands have made treaties with Italy which give their vessels the same privileges in all Italian ports as vessels of this Kingdom.

The following is a list of the favored countries and the dates of treaty with Italy:

Austria	Apr. 23, 1867
Belgium	Apr. 9, 1863
Canada	July 17, 1873

China	Oct. 20, 1866
Columbia, United State of	Nov. 27, 1872
Costa Rica	Apr. 17, 1863
Denmark (on ships above 30 tons)	May 1, 1864
France (only on steamers; treaty in force to July 16, 1886)	June 13, 1862
Germany	Nov. 28, 1872
Great Britain	Aug. 6, 1863
Greece	May —, 1878
Island of Cuba	July 22, 1863
Argentine Republic	Aug. 17, 1871
Sweden and Norway	June 14, 1862
Tunis	Feb. 8, 1868
Turkey (verbal treaty)	Aug. 12, 1863

The latest laws on the subject of dues or fees to be collected on vessels entering the ports of Italy were given the public on 6th day of December, 1885, from which the following items are quoted:

Steamers and sailing vessels under the national flag, and those from other countries equated by treaties pay as follows:

Anchorage tax.

Steamers, per net registered ton:

	Lire.
1. From a foreign country, for every call (art. 16)	1.00
For 12 months period (art. 21)	4.00
2. From part of the Kingdom, for every call (art. 19)	0.50
For 12 months period (art. 21)	2.00
3. Tug boats pay by the year (art. 23)	2.50

But in all cases not to be less than 30 lire.

Steamers navigating as per paragraphs 1 and 2, and which have not made special arrangements for the twelve months period, of calling again within a period of thirty days, are exempt from dues at this visit (art. 21).

Sailing vessels per net registered ton:	Line.
1. From points out of the Mediterranean, from 1 to 100 tons (art. 16)	0.50
Over 100 tons (art. 16)	0.80
2. From the Mediterranean, but not farther than the Suez Canal, Gibraltar, and the Dardanelles, from 1 to 100 tons (art. 17)	0.50
Over 100 tons (art. 17)	0.60
(Art. 17) Arrangements for 12 months	0.80
3. Vessels exclusively navigating between the ports of the Kingdom, from 1 to 50 tons (art. 20)	*0.20
From 50 tons and not over 100 tons (art. 20)	*0.40
One hundred tons and upwards (art. 20)	*0.70

ART. 22. Steamers or sailing vessels loading and unloading freight less than one-tenth of registered tonnage pay only one-fourth anchorage dues; for a quantity not over one-fifth they pay one-half the regular tax. If shipping or landing passengers, it is optional to pay 10 lire per head instead of anchorage dues. If steamers or sailing vessels, after having paid such taxes, call again at another port of the Kingdom to ship or land other passengers or merchandise, they pay anchorage dues, less the partial dues already paid.

ART. 24. Exemptions from anchorage tax: Ships of war of all nations, yachts, or such other vessels or steamers intended for private use and acknowledged as such by their respective governments, providing such do not ship or land passengers, and providing further, that they abstain from all maritime business. Sending boats ashore, delivering or receiving letters or samples, making purchases of food, coals, or clothing necessary to complete the voyage, and as such ascertained by the local authorities, are not considered commercial transactions.

Vessels or steamers who put into port, but do not land passengers or merchandise or ship passengers or freight, and who stop less than fifteen days, unless compelled so to do from circumstances, are exempt from taxes.

ART. 27. Flags not equaled by treaties to the flag of the Kingdom pay double the tax prescribed by articles 16 and 17, and they are not entitled to the special arrangements.

Other dues.—Bills of health for vessels from 1 to 100 tons (art. 29), 1 lira, in all and for all; for all vessels over 100 tons, 3 lire.

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* For 12 months period.

Lazaret dues per day.

	Lire.
Passengers, first class	3.00
Passengers, second class	2.00
Passengers, third class	0.80
Dogs, swine, or other like animals	2.00
Horses, cows, and similar animals	5.00

Merchandise landed for disinfection.

	Lire.
Rags, old rope, horns, etc., per 100 kilos	0.50
Hides of every kind	1.00
Coal, cotton, paper, hemp, per 100 kilos	0.50
Raw silk and tissues, per 100 kilos	5.00

MESSINA.

REPORT OF CONSUL JONES.

Pilotage is not compulsory in Italian ports, though the Government reserves the right to declare it so in any port or roadstead where it may be deemed necessary.

LIGHTS.

(1) Peloro light: A fixed light, second order, with flashes of eleven seconds at intervals of thirty seconds, is exhibited at an elevation of 147 feet above sea level from top of tow situated at the extremity of Faro Point. The fixed light is visible 11.5 miles, and the flash is visible 19 miles.

(2) The Messina or San Ranieri light: The apparatus is fifth order. A fixed light, varied by a red flash at intervals of two minutes; fixed light visible at 9 miles, flashes visible at 11; flashes are of six seconds, fixed light of one minute; is exhibited, from a square gray tower, at an elevation of 134 feet above sea level, situated near the eastern edge of the curved spit forming Messina port.

(3) Point Secca light, at 475 yards northwest from the above; a revolving red light, visible 6 miles, is exhibited at an elevation of 23 feet; the light lasts forty seconds, and the eclipse twenty seconds. This light marks the northeast edge of the curved spit forming the port.

(4) San Salvatore light: A light revolving every thirty seconds; visible 10 miles; is exhibited at an elevation of 62 feet above sea level from an iron frame on a small structure on the west edge of the walls of Salvatore; fort on the east side of the entrance to Messina port; duration of the light twenty seconds, of the eclipse ten seconds.

QUARANTINE.

Rules as to quarantine are established by the General Government as circumstances dictate. No fixed quarantine rules as to duration exist. Yellow fever, cholera, smallpox, and pest are quarantined against. Passengers bear the expense of detention; the municipalities bear the expense of fumigating passengers. Passengers and live stock are made to pay a per diem when detained in a lazaretto. Quarantined merchandise landed and disinfect in lazarettos is made to pay according to its character.

WALLACE S. JONES, *Consul.*

UNITED STATES CONSULATE,
Messina, August 28, 1889.

NAPLES.

REPORT BY CONSUL CAMPHAUSEN.

PILOTAGE.

Pilotage at this port is neither compulsory for Italian nor for foreign vessels. It is absolutely optional for the person in charge of a vessel to employ a pilot or enter this port without one. Nor does any foreign flag enjoy special privileges in this respect. The same regulation applies to vessels in distress and to foreign war vessels.

When employed, pilots are entitled to the following rates: For piloting into port vessels from 1 to 2 metres draft, 20 lire; from 2 to 3 metres draft, 30 lire; over 3 metres, 5 lire for every additional one-quarter of a metre. (One metre is equal to 39.368 inches American).

Vessels entering the port during the night are charged 5 lire in addition to the above rates.

For piloting a vessel out of the port one-half the above rates are charged.

LIGHT AND TONNAGE DUES.

There are no light dues of any kind charged at this port.

Tonnage dues are collected from all classes of vessels, whether in the foreign or coasting trade, laden or in ballast. There is no discrimination in regard to flag, nor do vessels of any nationality enjoy special privileges.

Tonnage dues, according to the law now in force, are as follows:

(1) Vessels, without regard to flag (except French vessels), coming from foreign ports, pay 1 lire per ton for every landing, or 4 lire per ton for every twelve months.

(2) Vessels, without regard to flag (except French vessels), coming from Italian ports, pay 50 centimes per ton, or 2 lire for twelve months.

(3) Towing boats, 2.50 lire for every ton for 12 months, the tax not to be less than 30 lire.

(4) Sailing vessels coming from ports outside of the Mediterranean, from 1 to 100 tons, 50 centimes per ton; over 100 tons, 80 centimes per ton.

(5) Sailing vessels coming from Mediterranean ports, from 1 to 100 tons, 50 centimes per ton, and over 100 tons, 60 centimes per ton. For twelve months, 80 centimes per ton.

(6) Sailing vessels coming from Italian ports, from 1 to 50 tons, 20 centimes per ton; from 51 to 100 tons, 40 centimes per ton, and over 100 tons, 70 centimes per ton.

The discrimination made against French vessels, which pay double the above rates, is owing to the expiration of the treaty of commerce between the two countries.

On the 12th of August, 1888, article 89 of the law of 1885 was suppressed and the following substituted therefor:

Vessels which load or land a quantity of merchandise less than one-tenth or one-fifth of their tonnage may load or land as many passengers as may be required to complete one-tenth or one-fifth of their net tonnage by paying the tax, reduced to the proportions indicated by article No. 22 of the law. Each passenger is calculated as 4 tons of merchandise in fixing the amount of the tax.

Article 22 of the law of December 6, 1885, No. 3547 (serie 3*a*), says:

Vessels, whether sail or steam, which land or load a number of tons of merchandise, not exceeding one-tenth of their tonnage, shall pay only one-fourth of the entry

tax. Those which load or land a number of tons of merchandise not exceeding one-fifth of their tonnage shall pay only one-half of the entry tax.

When the vessel loads or lands passengers only 10 lire for every passenger may be paid, instead of the entry or anchorage tax.

QUARANTINE.

There are no established and published quarantine regulations in Italy.

Diseases quarantined are as follows: Plague, cholera, yellow fever, scarlet fever, smallpox, and chicken pox. When either of these diseases breaks out in any foreign country or part of Italy, the minister of the interior sends a circular to the captains of the several ports of Italy fixing the duration of the quarantine for vessels coming from such infected country. On arrival of a vessel from such infected country, having on board sick passengers, they are taken to the hospital. The vessel is sent to quarantine to be fumigated, at the expense of the owners, who are also responsible for any expenses incurred during quarantine.

Quarantine charges.—For medical inspection of vessel, from 3 to 5 lire; fee to the guardians, 3 lire per day; first-class passengers pay for every day in quarantine, 3 lire; second class, 2 lire; third class, 80 centimes.

For every dog, sheep, or hog a fee of 2 lire per day is collected; for every horse, ox, etc., 5 lire.

For disinfecting and landing merchandise: For 100 kilogrammes of rags, horns, etc., 50 centimes; for 100 kilogrammes of hides, 1 lire; for 100 kilogrammes of sheep and goat skins, 50 centimes; for 100 kilogrammes of wool, flax, hemp, cotton, and paper, 50 centimes; for 100 kilogrammes raw silk and textiles, 5 lire.

All quarantine rules are established by the Italian Government and are under its exclusive control.

EDWARD CAMPHAUSEN,
Consul.

UNITED STATES CONSULATE,
Naples, August 15, 1889.

PALERMO.

REPORT BY CONSUL CARROLL.

LIGHTS AND LIGHT DUES.

No light dues are exacted in Italian ports.

There are three lights in the port of Palermo, viz: A revolving white light, flashing every 2 minutes, 29.90 metres above sea level and visible 14.70 miles; a red light visible 2 miles, and green light visible 2 miles.

TONNAGE DUES.

The following are the tonnage dues collected on steamers and sailing vessels of Italy and those of other nations, good for the period of thirty days, the number of entries in the interim not considered, from which, however, this class of vessels can become exempt by paying four times the sum per annum, the number of entries during that period not being considered, viz: Steamers, 1 lira per ton; sailing vessels of more than

100 tons, 80 centimes; sailing vessels of less than 100 tons, 50 centimes.

Italian sailing vessels and those of foreign countries, trading exclusively at Mediterranean ports between Gibraltar, the Dardanelles, and Suez Canal, are required to pay 60 centimes per ton burden, which is good for the period of 4 months, provided in the interim they do not enter a foreign port for the purpose of trade, but paying 80 centimes per ton this class secures exemption from paying dues for 12 months and are at liberty to enter the ports of Italy *ad libitum* during the period named.

Italian and other steamers, plying exclusively between the ports, etc., of Italyfor the purpose of trade, and not voluntarily entering or soliciting trade at any foreign port, pay 50 centimes per ton burden.

Italian sailing vessels and those of other nations trading exclusively between the ports of Italy are exempt from tonnage dues upon their paying 70 centimes per ton burden for the period of 12 months, if more than 100 tons burden; 40 centimes if not more than 100 and less than 51 tons burden; 20 centimes if less than 51 tons, no matter as to the number of entries they may make.

Steamers and sailing vessels not taking or landing cargoes greater than one-tenth of their tons burden are required to pay only a fourth of the regular tonnage dues.

Those landing or taking in cargoes not greater than one-fifth of their tons burden only pay one-half of the tonnage dues, and when they neither discharge nor take in cargo, but land or take passengers, instead of being required to pay tonnage dues, they are taxed 10 lire per passenger. Should vessels of this character enter other ports of Italy, discharge or take in cargo, the regular tonnage is required to be paid, from which is deducted the sum paid previously on account of the passengers.

The following vessels are exempt from dues: War vessels of all nations; pleasure boats (yachts) of whatever nation, recognized as such by their respective governments, are also exempt, provided they do not engage in trade, take in passengers, etc., as are also fishing and coasting vessels and those engaged in carrying passengers, goods, etc., to and from ports in Italy within the limit prescribed in the mercantile code, together with vessels forced from any cause to enter Italian ports and those which enter and neither discharge nor take in cargo, the latter for the period of fifteen days and the former as per maritime law.

Vessels just launched, awaiting their equipments, etc., are also exempt.

In certain cases the tonnage dues are required to be paid upon entering and in others before the departure of a vessel, and the annual dues in lieu thereof in advance.

Anchorage is levied upon the registered net tonnage of the vessel, whether steam or sail. Fractions less than 50 centimes are not considered in calculating the amount of tonnage dues. Foreign vessels with whose nations there are no treaties giving them the same privileges as Italian vessels are subject to double dues, France being the only maritime nation at this time coming within this category.

QUARANTINE.

Quarantines are regulated by the general Government, which issues decrees on the subject from time to time, or when necessary, to provincial or other proper authorities, by whom they are enforced. All contagious diseases are subject to quarantine, the length of which is determined by the virulence of the disease. Cholera, however, is about the

only disease of which cognizance is taken, on account of which in 1884 the quarantine was twenty days; in 1885, five days.

Vessels' owners or agents are responsible for the expenses attending fumigation. The passengers are required to pay extra for their meals, etc., during detention.

Respectfully submitted.

PHILIP CARROLL,
Consul.

UNITED STATES CONSULATE,
Palermo, August 23, 1889.

VENICE.

REPORT BY CONSUL JOHNSON.

PILOTAGE.

Every vessel, foreign or national, is required by law to employ a pilot. The pilotage for the Venetian estuary, divided into two distinct sections, that is, that part at sea, outside of the lagoon, and that for the canals of the lagoon. The limits of the first section are within a line joining the light-house at Maista di Po with that of the mouth of the river Piave, up to the entrance of the port of Malamoco Canals or Channels Spigna and Tisolo, the port of the Lido, and the port of Chioggia.

The second section comprises the main channel, military and commercial, from the port of Malamoco up to the city of Venice and to the maritime station. For the first section the employing of a pilot is not obligatory, but left to the discretion of the commander of the vessel; for the second section, however, all vessels, whether leaving or arriving, loaded or in ballast, steamers or sailing vessels, excepting the following, are obliged to take a pilot: (*a*) Vessels whose registered tonnage is not above 200 tons; (*b*) rafts, barges, and floating stock belonging to the civil or military engineer department and engaged in excavating or other work on the canals of the lagoon.

For the present, in the absence of any instructions that may be issued, vessels entering the lagoon by the port of the Lido are not required to take a pilot, nor are those vessels engaged in local operations nor vessels belonging to the royal navy.

The pilot charges are the same for foreign as for national vessels, and the tariff is established by the regulation concerning the pilotage of the Venetian estuary, as per the royal decree of 16th March, 1888.

As the rule regarding the taking of a pilot makes no special provision for vessels in distress, but exacts that all vessels take a pilot in the second section of the Venetian estuary, it follows that vessels in distress as well as foreign men-of-war are obliged to obey the rule.

LIGHTS AND LIGHT DUES.

In the Kingdom of Italy no light dues are levied.

The light-houses existing in the maritime district of Venice are:

(1) The light of Maestra, at Maestra Point, coast of the province of Rovigo.

(2) At the port of Piave Vecchio, the light known as the "Sacca di Piave," being a fixed white light of the second order.

(3) Three lights at the port of Malamoco, viz: (*a*) Uncovered light

of second class at a height of 25 metres above the sea level, white flash, intervals of thirty seconds, with intervals of total eclipse between the flashes. (*b*) The port light at the extremity of the northern breakwater; height above sea level, 11.50 metres; white flash, intervals of twenty seconds. (*c*) Light inside the port marking the Canal Spignon, fixed; height above sea level, 11.50 metres.

(4) In the port of Chiozzia, light of the fifth order, fixed, white, placed at the south of the entrance to the port on the fort of San Felice.

TONNAGE DUES.

No tonnage dues are levied upon vessels entering ports in the Kingdom of Italy. In the place of tonnage dues an anchorage tax is exacted, which has to be paid in proportion to the tonnage of the vessel, and is therefore virtually the same thing as a tonnage tax. This anchorage tax is levied upon all vessels, steam and sail, whether foreign or national, stopping at any port, roadstead, or shore of the Kingdom of Italy for commercial purposes.

The following are exempt from this tax, viz: Vessels of war of whatever nationality; yachts and pleasure boats of whatever flag, when recognized as such by the nations to which they belong; vessels and craft engaged in fishing off the coasts of the Kingdom, and vessels engaged in the coasting trade, provided the operations are confined to the limits prescribed by the laws concerning the merchant marine; vessels remaining in port, either voluntarily or from force of circumstances, but not engaged in any commercial operations and not remaining in any port, roadstead, or harbor for a longer period than fifteen days, except in case of an enforced delay for reasons satisfactory to the maritime authorities; vessels that have been newly launched from shipyards within the Kingdom and remain in port or roadstead to complete the work necessary to prepare the vessel for sea.

Discriminations in the levying of this tax are made in the case of certain nations. Foreign vessels belonging to nations that are not by treaty with the Kingdom of Italy placed on an equal footing in this respect with the national vessels are required to pay double the tax fixed for national vessels and those covered by such treaties.

QUARANTINE.

The regulations for quarantine are as follows: Every vessel arriving with a foul bill of health shall be declared in quarantine. Any vessel may be put in quarantine if arriving in conditions contemplated by article 3 of the conventions and which can be assimilated to those of a foul bill of health. No arrival from whatever quarter can be placed in quarantine without a decision expressing the determining motives. Such decision shall be immediately communicated to the captain or master of the vessel.

Excepting in the case where the plague, yellow fever, or cholera may exist on board, a vessel will always have the right to go to sea again, either before being placed in quarantine or during the quarantine. If not at her port of destination her bill of health will be returned, and the sanitary authorities notice thereon the duration and circumstances of her sojourn at the port as well as the sanitary condition on board at the time of her departure.

A vessel may go to sea again notwithstanding the presence on board *of ordinary* sickness, but the sanitary authorities of the port must first

assure themselves whether or not the patients can be properly treated during the remainder of the voyage, and patients desiring to remain in the lazarretto shall always have the right to do so.

The duration of the quarantine for persons and merchandise subject to quarantine shall be the same as that for the vessel to which such persons and merchandise belong.

Quarantines are of two kinds, viz: the quarantine of observation, and the rigorous quarantine (quarantine de rigore). The quarantine of observation commences for the vessels and all that exists on board at the time when a sanitary guard is placed on board and when measures for purification and ventilation are initiated.

Rigorous quarantine commences for the ship, for the persons and things existing on board, from the moment when the merchandise subject to discharge has been discharged; for the merchandise already deposited in lazaretto or in any other place reserved for the purpose from the beginning of the purification and for the persons disembarked from the moment of their entrance in the lazaretto.

A quarantine commenced on board ship may be continued in lazaretto.

A quarantine of observation shall be limited to the keeping under observation for a specified duration of time the ship, its crew, and passengers, and shall not necessitate the transfer of the merchandise to the lazaretto. It will be exercised for persons subject to it either on board ship or in the lazaretto at the discretion of the quarantine authorities. Pending its duration the ship, kept isolated and watched by an adequate force of sanitary guards, shall be subject, simply as a sanitary precaution, to a proper ventilation and general cleaning processes.

A rigorous quarantine shall add to the measures prescribed for a quarantine of observation, those of purification and a special disinfection, such as may be judged by the sanitary authorities to be necessary. It will also require, in certain specified cases, according to the present regulations, the discharge at the lazaretto of the merchandise of the first class, and, according to circumstances and local regulations, that of merchandise of the second class.

A rigorous quarantine for cases of the plague can be performed only in a port possessing a lazaretto, but a quarantine imposed on a vessel on account of its generally filthy condition may be performed in an isolated part of any port whatever.

Quarantine may be performed at a port intermediate between the point of departure and port of destination, and the vessel offering proof of such quarantine shall be admitted to free pratique.

The duration of the voyage for all ships shall be computed from the moment of departure as proved by the log book and attested by the declaration of the captain or master of the ship.

Every vessel, on board of which may have occurred during the voyage a case of any one of the three diseases reputed susceptible of being imported and transmitted, whatever may be her actual bill of health, shall be considered as having a foul bill of health.

If during the voyage and during the quarantine one or more cases of cholera have occurred, the same quarantine shall be computed from the moment of arrival and execution of sanitary measures, no account being taken of time employed in the voyage.

With the temporary exceptions mentioned above, the merchandise and material objects of every description, arriving with a clean bill of health on board a ship in good condition and well cared for, and which has had no deaths or suspicious cases of illness, shall be exempt from

any sanitary treatment, and admitted immediately to free pratique (traffic), as likewise the ship, crew, and passengers.

Hides, hair, and rags are excepted, and may be, even with a clean bill of health, subjected to sanitary measures. The authorities shall use their judgment in applying such measures and shall determine their nature and duration. Excepted likewise are all kinds of merchandise and all objects in a state of alteration or decomposition. In conformity to paragraph 4 of article 45, the authorities shall have the right to have such merchandise thrown overboard or to order its destruction by fire. The formalities to be observed in such cases shall be determined by the local regulations.

In conformity to article 5 of the convention and for what concerned the sanitary measures, all merchandise shall henceforth be divided into three classes:

In the first class are comprised, and shall therefore be submitted to obligatory quarantine and to the process of purification, all baggage and effects for usage, worn apparel, rags, hides, skins, feathers, hair, and, in general, all animal remains; and finally wool and materials of silk.

In the second class are comprised, and shall be subject to quarantine when necessary, cotton, flax, and hemp.

In the third class are comprised, and shall be exempt from quarantine measures, all goods and objects not included in the first two classes.

Merchandise of the first class with a foul bill of health on account of the plague shall always be discharged in the lazaretto and subjected to purification.

Merchandise of the second class may be either admitted immediately to free pratique or discharged in lazaretto for purification, according to circumstances and to the particular regulations of each of the contracting parties.

Merchandise of the third class, being declared free, may always be admitted to traffic under the supervision of the sanitary authorities.

With a foul bill of health on account of yellow fever, without accidents during the voyage, if the said voyage has lasted more than 10 days, the cargo shall be subjected as a sanitary measure to a simple ventilation, but without being discharged.

If there have been accidents, or if the voyage has lasted less than 10 days, the cargo may be subjected to the same measures as if arriving with a foul bill of health on account of plague, viz, be discharged in lazaretto and purified; but this treatment shall be optional and left to the discretion of the sanitary authorities.

A cargo, with a foul bill of health on account of cholera, shall not be subjected to any particular sanitary measure; the ship shall be ventilated, and those sanitary measures which are always obligatory shall be observed.

In all cases with a foul bill of health letters and papers shall be subjected to the usual purifications.

Every kind of merchandise, or of objects whatever, arriving from a healthy locality, and inclosed in a covering officially sealed, and consisting of a material not subject to measures of purification, shall be immediately admitted to free pratique, whatever be the ship's bill of health. If the package consists in part of a substance subject to optional sanitary measures, the admission to free pratique of such a package shall equally be optional.

Living animals shall be subject to the quarantine and purification usual in the country at which they are arriving.

Every vessel unprovided with a bill of health, when at the point of departure she should have been provided with such bill, may be, according to circumstances, subjected to a quarantine either of observation or of rigor.

The duration of this quarantine shall be fixed by judicial authority, but it shall not exceed 3 days if the vessel comes from a locality notoriously healthy and is found to be in good sanitary condition.

Cases of unavoidable necessity and of the fortuitous loss of a bill of health shall be decided on by the sanitary authorities.

Every bill of health containing cancellations or erasures will be considered null, and will place the ship in the situation contemplated by the preceding article without prejudice of any proceedings which might be instituted against the author or authors of such alterations. If during the quarantine a case of plague, yellow fever, or cholera shall make its appearance, the quarantine shall recommence.

Besides the quarantine contemplated, and the measures specified, as well by the convention of December 19, as by the present regulations, the sanitary authorities of each country shall have the right, in presence of danger imminent and beyond provision, to prescribe on their responsibility, and for account of whomsoever it may concern, all such measures as the said authorities may judge to be indispensable for the preservation of public health. In default of special establishments on land, they may use as lazarettos ships isolated and guarded in such a manner as to prevent any communication from without.

The diseases for which vessels are always placed in quarantine are; plague, yellow fever, and cholera.

For the plague the duration of quarantine is fixed for the minimum at 10 days, for the maximum at 15 days.

For the yellow fever when no accident shall have occurred during the voyage, the minimum duration of quarantine is 5 days, the maximum 7. The minimum may be reduced to 3 days when the voyage has lasted for a longer period than 30 days.

For the cholera, arrivals from localities where this disease prevails may be subjected to a quarantine of observation for 7 days, including the time employed in the voyage. Arrivals from neighboring or intermediate localities that are liable to be in any way influenced by infected localities may be subjected to a quarantine of observation for 3 days, including the duration of the voyage.

The fixed regulation shall not, however, prevent the governmental authority from establishing terms of duration for a longer or shorter period according to the requirements of the case.

The expense of guarding and disinfecting the cargo, of medical visits, and of guardians for the ship, shall be paid by the ship.

The expenses of sojourn in the lazaretto to perform their quarantine shall be supported by the passengers, each one on his own account, being exempted, however:

(1) Passengers under the age of 7 years.

(2) Indigent persons, embarked at the expense of their respective governments, and provided with legal attestation in proof thereof.

(3) Civil and military employés of the state and of the commune, and men belonging to the rank and file of the army, and to the public police force, traveling for the needs of their service, and provided with a certificate to that effect.

Quarantine regulations are determined by law, and are applied from

time to time when the necessity for such application may occur, by the Government. Any provincial or communal authorities attempting to impose arbitrarily any quarantine whatever would commit an illegal act, and might even be deposed by the Royal Government.

H. ABERT JOHNSON,
Consul.

UNITED STATES CONSULATE,
Venice, October 19, 1887.

PORTUGAL.

THE AZORES.

REPORT BY CONSUL DABNEY, OF FAYAL.

PILOTAGE.

Pilotage is not compulsory in the ports of the Azores, with the exception of vessels that at Fayal go inside of the area protected by the breakwater, and that at San Miguel anchor in what is called the "Roadstead," or inside the port formed by the breakwater.

Charges for pilotage, when this is compulsory, are uniform for vessels of all nationalities.

At Fayal all vessels that take pilots pay them. At San Miguel vessels of war and vessels in distress are exempted from such payment. At Fayal there is as yet no tariff for pilotage rates, but I understand it is in hand.

LIGHTS AND LIGHT DUES.

At Fayal no light dues are paid; there is no light, excepting a small one on the breakwater; but the building of one on the west end of the island is in contemplation, and the site already fixed upon.

At San Miguel, or the northeastern point of the island, there is a flash light visible 25 miles, and a red light on the breakwater visible 12 miles.

The rate is 1 real per ton, collected through the consignee, and is uniform for all nations, but the following vessels are excepted: Men-of-war, vessels in distress or calling for orders, whaling vessels, and steamers for coal, and also coasting vessels.

TONNAGE DUES.

Sailing vessels or steamers, national or foreign, pay on each voyage 45 reis per ton,* but steam vessels, national or foreign, that perform regular mail service, and whose voyages begin at ports of Portugal, or that touch at such at least once a month, pay 20 reis per ton, provided that they carry the mails gratuitously; if not, then 25 reis.

Coasting vessels, either moved by steam or sail, pay 20 reis per ton.

The following are exempt from this due: Ships of war, yachts, fishing craft, tugboats, open boats, and coasters of less than 20 tons register, vessels in ballast, those that stop only for provisions or coal, vessels in distress, vessels that convey shipwrecked people, prisoners, indigent

* 1,000 reis = 1 milres; 1 millreis = $1.08.

persons, or any others forwarded by consuls; and, lastly, vessels that discharge or load less than 1,000 kilogrammes.

QUARANTINE.

The sanitary regulations are the same as those that will be furnished from Lisbon.

S. W. DABNEY,
Consul.

UNITED STATES CONSULATE,
Fayal, October 23, 1889.

RUSSIA.

ODESSA.

REPORT BY CONSUL HEENAN.

PILOTAGE.

Pilotage is compulsory in Russia for all foreign vessels and all foreign-going Russian vessels. The charges are the same in all cases. There are no special privileges.

LIGHTS AND LIGHT DUES.

Light dues, rubles 7.15 ($3.60), are payable by all classes of sea-going, foreign-going vessels, native and foreign, every time they enter a port in this country, whether laden or in ballast.

The charges are the same at all ports whether there are lights or not.

The principal lights in the Black Sea are good, and they are visible from 14 to 26 miles, according to the elevation above the sea level.

As to American vessels, I have to report with regret that it is a great many years since an American vessel has been seen in this port.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels, laden or in ballast, native or foreign, and on all trades the rate is 5 copecks (or $2\frac{1}{2}$ cents) per last inwards, and 5 copecks per last (2 tons) outwards. There are no special privileges. Passenger steamers running on a regular line only pay dues once for the season. Vessels arriving at Nicolaies direct from abroad pay 2 copecks per last, 1 last being equal to 2 British net tons registered.

Mail steamers, of all nationalities, with regular departures and arrivals, pay full dues first voyage of each year; half dues after. All of these charges are levied by the custom-house.

Russian vessels engaged in the coasting trade (and there are none other) pay 10 copecks per last, which is levied by the town authorities.

QUARANTINE.

The Russian quarantine regulations form a special "quarantine code," containing instructions how arrivals from infected localities, or localities supposed to be infected, with some particularly dangerous disease have to be dealt with.

Particularly dangerous diseases are considered to be the plague, yellow fever and cholera, as well as many others not mentioned concerning which special orders are issued by the minister of the interior, when the occasion demands.

The duration of detention in quarantine has been fixed for the plague at ten days, yellow fever seven days, and cholera six days, but these terms are sometimes prolonged or abbreviated (by order of the minister of the interior only), depending on circumstances in connection with the arriving vessel.

The expenses for loss of time, and for the measures taken for the purification of the vessel, fall on the owners of the vessel.

All quarantine measures are imposed and enforced by the Government, and not by town authorities.

The Russian authorities do not recognize any other quarantine but their own.

Vessels arriving here from Constantinople (twenty-four hours distant), even if they have been subjected to quarantine supervision at this latter place, must again undergo the regulations in force here.

THOS. E. HEENAN,
Consul.

UNITED STATES CONSULATE,
Odessa, August 20, 1889.

REVAL.

REPORT BY CONSULAR AGENT VON GLEHN.

PILOTAGE.

This is compulsory in all cases for vessels of this country as well as for foreign vessels, the charge for pilot being the same whether under foreign or Russian flag. No foreign flag enjoys special privileges in this regard. Vessels in distress and foreign war vessels have to pay pilotage if not brought in tow of some other vessels having pilots on board.

LIGHTS AND LIGHT DUES.

There are no light dues charged at this port.

The Russian coast of the Baltic is considered by captains to be very well supplied with lights, the character of them being various.

The light-house at Ristna, placed at the west point on the Isle of Dagoe, has a fixed red light, which is lit in order to indicate that the passage to the Gulf of Finland is closed by ice.

On the island of Rooskär, near Hodeland, there is a light which at rapid intervals lights the horizon in a circumference of 10 miles.

The old light-house at Packerort has been replaced by a new one, at a more elevated position, with a stronger light, which will make it more easy to avoid the breakers of Nygrund.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels, whether on the foreign or coasting trade, laden or in ballast. There is no discrimination in regard to flag; no privileges to any nationalities are allowed. The only exception are vessels belonging to yachting clubs, which are not charged tonnage dues.

QUARANTINE.

There are no general rules as to quarantine in force. Should it at any time become necessary to put a quarantine on vessels from countries where infectious diseases have spread, especial instructions are then prescribed by the Government.

E. VON GLEHN,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Reval, October 12, 1889.

ST. PETERSBURG.

REPORT BY CONSUL-GENERAL CRAWFORD.

PILOTAGE.

Pilotage is compulsory in all cases, as well for Russian as for foreign vessels, with the exception of coasters under the Russian flag. The same rates of pilotage are charged to Russian and foreign vessels, and no flag enjoys special privileges in this particular. Vessels in distress and foreign war vessels are subject to the same regulations in this regard as other vessels.

LIGHT AND TONNAGE DUES.

These dues are not separated at this port, and they are charged to every vessel, steam or sail, Russian or foreign, laden or in ballast, and are payable at all ports during the same voyage, whether there is or is not a light, and at the rate of 5 kopecks per register ton, and are always collected by the custom-house for entry voyage. Russian steamers engaged in a regular trade pay these dues in total once a year. This port charges its own shipping engaged in the foreign or coasting trade the same rates of dues for light and tonnage that are charged to vessels of the United States.

All vessels riding at harbor in the roads and fairways are bound to carry, from sunset to sunrise, where it will be the most visible, at a height of not less than 20 feet above the hull of the vessel, a bright, white light in a globular lantern 8 inches in diameter, so constructed as to illumine the whole horizon with a bright, steady, uninterrupted light, visible at a distance of at least 1 mile.

QUARANTINE.

Vessels coming to Cronstadt or St. Petersburg from a port officially declared infected with cholera have to return immediately to Kaensoe, in the Cattegat, a quarantine port in Sweden near Gothenburg, and there remain until liberated by the Swedish quarantine regulations.

This rule is established by the Government; but I have been assured that it will soon be revised or entirely abolished.

J. M. CRAWFORD,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
St. Petersburg, September 20, 1889.

SPAIN.

BARCELONA.

REPORT BY CONSUL SCHEUCH.

PILOTAGE.

Spanish ships are free in the coasting trade, but coming from or cl for a foreign port pilotage is compulsory; for foreign ships of al tions, compulsory. The charges are the same both for Spanish foreign. Vessels in distress are liable to pay, but war vessels and y are exempt.

LIGHT AND TONNAGE DUES.

These are payable by ships coming with cargo (when in ballast even if no light exists; the charge is on the weight discharged.

Lights: Llobregat to west turning light white. Extreme of B lona mole turning light white and red. Calella to the east, white No special charge is made for light dues, as it is included in ton dues. Ships with cargo coming from European ports, whether Sp or foreign, pay on every ton of 1,000 kilogrammes discharged:

	P
Discharging dues	
Harbor improvement	
Total per ton	

Ships from all other ports, American, Asian, African, and Au ian pay on every ton of 1,000 kilos:

	P
Discharging dues	
Harbor improvement	
Total per ton	

The only exception made is with ships coming with coal cargoes any part of the world:

	P
Discharging dues	
Harbor-improvement dues	
Total per ton	

QUARANTINE.

Vessels with foul bills of health are sent to a lazaretto—Port M or Vigo—to perform rigorous quarantine from 10 to 15 days acco to circumstances; ships from "suspected" places are subject to days' observation, which generally is performed in "port of discha Ship and cargo suffer their own expenses arising from fumiga detention, etc. Ships pay passengers' quarantine expenses, but n their detention. The "central government" establishes the quara rules, and issues periodically orders how to proceed with ships co from infected or suspected ports.

COASTING TRADE.

The coasting trade is reserved for Spanish vessels, the charge levied only three fourths of a peseta for 1,000 kilos discharge dues, and 1.60 pesetas per 1,000 kilos harbor improvement dues.

Tonnage dues on ships loading at this port are charged extra with 1 peseta per 1,000 kilos loading for a European port, and 2 pesetas for 1,000 kilos for all other ports.

FRED'K H. SCHEUCH,
Consul.

UNITED STATES CONSULATE,
Barcelona, February, 1890.

CADIZ.

REPORT BY CONSUL INGRAHAM.

PILOTAGE.

Pilotage is compulsory in all cases, for Spanish as well as foreign vessels, except coasters and men-of-war.

Pilot charges are the same for Spanish as for foreign vessels. In Huelva the tariff adds 10 per cent. against those of non-treaty nations, but it is never enforced. No foreign flag enjoys special privileges in this regard. Vessels in distress and foreign war vessels do not pay pilotage.

LIGHT AND TONNAGE DUES.

All anchorage, tolls, and light dues were abolished by decree of November 12, 1868.

Tonnage dues are collected from all classes of vessels, whether on the foreign or coasting trade, laden or in ballast, except those in ballast* without discrimination in regard to flag. No vessels of any nationality enjoy special privileges.

QUARANTINE.

Quarantine is of two kinds, one of rigor and the other of observation. In that of rigor, with foul or even clean bill of health, if the vessel is not in good hygienic condition it is necessary to send to the lazaretto for expurgation all the clothing and effects of the passengers and crew; hides, skins, feathers, and hair of animals; wools, silks, and cottons, rags, paper, and live animals; vegetable or animal substances in a state of putrefaction are thrown overboard, and official and private correspondence is subjected to precautions. Other articles may be simply ventilated and fumigated, as well as cotton, linen, and flax where no disease has broken out during the voyage, according to the judgment of the health office. Metals and minerals may have free pratique after 48 hours of ventilation, but no other merchandise in the case of a rigorous quarantine.

Quarantine of observation consists simply of a visit and inspection.

Every vessel from abroad, with clean bill of health viséed by the Spanish consular officer of the port she sailed from, having good hygienic condition and without suspicion of disease having appeared on the voyage, is admitted to free pratique with simply a visit and inspec-

*As per copy.

tion, unless it appears from official notice that some contagious disease had broken out at the port from whence the vessel sailed and after her departure.

All vessels with clean bills of health, and without suspicion of disease on board, leaving the ports of the Antilles, Gulf of Mexico, La Guayra, and Casta Firma, between the 1st day of May and the 30th of September, are obliged to undergo qarantine for seven days, both vessel and persons, at Vigo and Santander.

If the bill of health is foul the vessel is sent for quarantine to the lazaretto to perform the number of days prescribed according to the disease.

Vessels from the same ports from October 1 to April 30, and arriving at Spanish ports of the Mediterranean and at those of the provinces of Seville, Cadiz, and Huelva, and having note of isolated cases of yellow fever, have three days of quarantine of observation.

Notwithstanding a clean bill of health, vessels may be subject to foul treatment if not considered in good hygienic condition.

List of diseases quarantined and duration for each and from each port: Levantine pest, fifteen days rigorous; yellow fever, with no cases on board, ten days rigorous; yellow fever, with cases on board, fifteen days rigorous; Asiatic cholera, with cases, same as in yellow fever.

Vessels from countries contiguous to those having the above diseases have three days of quarantine of observation.

Vessels from ports which have suffered from the pest, yellow fever, or Asiatic cholera, will be subject to quarantine some time after their cessation has been officially declared, thirty days in ordinary cases of the pests, and twenty for yeilow fever and Asiatic cholera.

The vessel bears the expense for the detention, and for fumigation each person, and the cargo pays the rates prescribed.

The general direction of quarantine is placed by law with the ministry of the Government (Gobernación) and under it with the civil governor of the respective provinces.

DARIUS H. INGRAHAM,
Consul.

UNITED STATES CONSULATE,
Cadiz, August 20, 1809.

GRAO DE VALENCIA.

REPORT BY CONSULAR AGENT MERTENS.

PILOTAGE.

Pilotage is compulsory here for vessels of this country as well as for foreign vessels; likewise are pilot charges the same for every vessel of whatever nationality. No foreign flag enjoys special privilege in this regard. Vessels in distress are also obliged to pay pilotage in leaving this port.

Since war vessels are not mentioned especially in the pilot rules of this harbor, they are considered not obliged to pay pilotage unless they ask for a pilot.

LIGHT AND TONNAGE DUES.

Light dues are abandoned now in this port. The harbor light-house is located at the extreme end of the eastern mole, showing a fixed red

light which is 8.50 metres in height over the level of the sea, and 6.50 metres high from the ground it stands on. Its strength is calculated to reach about 9 miles.

Tonnage dues are paid by all vessels alike without regard to flag, and no nationality enjoying special privileges, at the following rates, viz: Charges are levied on the tonnage each vessel charges or discharges in this port, *i. e.*, 1.25 pesetas per ton on discharging goods, and 1 peseta per ton on loading goods to or from European ports; 2.50 pesetas per ton on discharging goods, and 2 pesetas per ton on loading goods to or from foreign ports, not European.

QUARANTINE.

As epidemics or contagious diseases are considered yellow fever, cholera morbus (Asiatic), pest (Levantine), any bill of health stating these diseases at port of departure, the vessel will have to observe ten days' quarantine without any such case on board, and fifteen days' quarantine with such sickness on board.

Vessels coming from countries situated near another country infested with said epidemics, have to submit to a quarantine of three days of twenty-four hours each at an observation station. This observation, however, is subject to alteration by the board of health considering the disease. Every vessel has to pay 0.06¼ peseta per ton (Morson) each day, both at hospitals as well as at observation station. Passengers, cargo, and luggage pay extra charges according to the hospital's tariff. Vessels in quarantine have to pay discharging expenses on goods for fumigation purposes; they also pay any expenses which hygienic measures may require before entering or leaving quarantine. Every facility however will be offered to vessels in this regard, and no steps will be taken without the captain's knowledge or intervention.

Passengers have to pay for any expenses they incur, besides 1 peseta daily, for lodging only.

Quarantine rules are established by the General Government.

THEODOR MERTENS,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Grao, February 16, 1890.

CARTHAGENA.

REPORT BY CONSUL MOLINA.

PILOTAGE.

Pilotage is compulsory here, and I believe is also all over Spain for foreign vessels and for vessels of the country when on foreign trade.

Pilotage is charged the same for foreign vessels as for vessels of the country when trading as above. No foreign flag enjoys any special privileges in this regard. Vessels in distress, as well as foreign and this country war ships, pay pilotage.

LIGHT DUES.

It is now a great number of years since the light dues were abolished in Spain, being now included as the actual so-called "navigation taxes." See Tonnage dues.

tion, unless it appears from official notice that some contagious disease had broken out at the port from whence the vessel sailed and after her departure.

All vessels with clean bills of health, and without suspicion of disease on board, leaving the ports of the Antilles, Gulf of Mexico, La Guayra, and Casta Firma, between the 1st day of May and the 30th of September, are obliged to undergo qarantine for seven days, both vessel and persons, at Vigo and Santander.

If the bill of health is foul the vessel is sent for quarantine to the lazaretto to perform the number of days prescribed according to the disease.

Vessels from the same ports from October 1 to April 30, and arriving at Spanish ports of the Mediterranean and at those of the provinces of Seville, Cadiz, and Huelva, and having note of isolated cases of yellow fever, have three days of quarantine of observation.

Notwithstanding a clean bill of health, vessels may be subject to foul treatment if not considered in good hygienic condition.

List of diseases quarantined and duration for each and from each port: Levantine pest, fifteen days rigorous; yellow fever, with no cases on board, ten days rigorous; yellow fever, with cases on board, fifteen days rigorous; Asiatic cholera, with cases, same as in yellow fever.

Vessels from countries contiguous to those having the above diseases have three days of quarantine of observation.

Vessels from ports which have suffered from the pest, yellow fever, or Asiatic cholera, will be subject to quarantine some time after their cessation has been officially declared, thirty days in ordinary cases of the pests, and twenty for yellow fever and Asiatic cholera.

The vessel bears the expense for the detention, and for fumigation each person, and the cargo pays the rates prescribed.

The general direction of quarantine is placed by law with the ministry of the Government (Gobernación) and under it with the civil governor of the respective provinces.

DARIUS H. INGRAHAM,
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UNITED STATES CONSULATE,
Cadiz, August 20, 1809.

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Since war vessels are not mentioned especially in the pilot rules of this harbor, they are considered not obliged to pay pilotage unless they ask for a pilot.

LIGHT AND TONNAGE DUES.

Light dues are abandoned now in this port. The harbor light-house *is located* at the extreme end of the eastern mole, showing a fixed red

light which is 8.50 metres in height over the level of the sea, and 6.50 metres high from the ground it stands on. Its strength is calculated to reach about 9 miles.

Tonnage dues are paid by all vessels alike without regard to flag, and no nationality enjoying special privileges, at the following rates, viz: Charges are levied on the tonnage each vessel charges or discharges in this port, *i. e.*, 1.25 pesetas per ton on discharging goods, and 1 peseta per ton on loading goods to or from European ports; 2.50 pesetas per ton on discharging goods, and 2 pesetas per ton on loading goods to or from foreign ports, not European.

QUARANTINE.

As epidemics or contagious diseases are considered yellow fever, cholera morbus (Asiatic), pest (Levantine), any bill of health stating these diseases at port of departure, the vessel will have to observe ten days' quarantine without any such case on board, and fifteen days' quarantine with such sickness on board.

Vessels coming from countries situated near another country infested with said epidemics, have to submit to a quarantine of three days of twenty-four hours each at an observation station. This observation, however, is subject to alteration by the board of health considering the disease. Every vessel has to pay 0.06¼ peseta per ton (Morson) each day, both at hospitals as well as at observation station. Passengers, cargo, and luggage pay extra charges according to the hospital's tariff. Vessels in quarantine have to pay discharging expenses on goods for fumigation purposes; they also pay any expenses which hygienic measures may require before entering or leaving quarantine. Every facility however will be offered to vessels in this regard, and no steps will be taken without the captain's knowledge or intervention.

Passengers have to pay for any expenses they incur, besides 1 peseta daily, for lodging only.

Quarantine rules are established by the General Government.

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Pilotage is charged the same for foreign vessels as for vessels of the country when trading as above. No foreign flag enjoys any special privileges in this regard. Vessels in distress, as well as foreign and this country war ships, pay pilotage.

LIGHT DUES.

It is now a great number of years since the light dues were abolished in Spain, being now included as the actual so-called "navigation taxes." See Tonnage dues.

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If the bill of health is foul the vessel is sent for quarantine to the lazaretto to perform the number of days prescribed according to the disease.

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Notwithstanding a clean bill of health, vessels may be subject to foul treatment if not considered in good hygienic condition.

List of diseases quarantined and duration for each and from each port: Levantine pest, fifteen days rigorous; yellow fever, with no cases on board, ten days rigorous; yellow fever, with cases on board, fifteen days rigorous; Asiatic cholera, with cases, same as in yellow fever.

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The general direction of quarantine is placed by law with the ministry of the Government (Gobernación) and under it with the civil governor of the respective provinces.

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Tonnage dues are paid by all vessels alike without regard to flag, and no nationality enjoying special privileges, at the following rates, viz: Charges are levied on the tonnage each vessel charges or discharges in this port, *i. e.*, 1.25 pesetas per ton on discharging goods, and 1 peseta per ton on loading goods to or from European ports; 2.50 pesetas per ton on discharging goods, and 2 pesetas per ton on loading goods to or from foreign ports, not European.

QUARANTINE.

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Vessels coming from countries situated near another country infested with said epidemics, have to submit to a quarantine of three days of twenty-four hours each at an observation station. This observation, however, is subject to alteration by the board of health considering the disease. Every vessel has to pay 0.06¼ peseta per ton (Morson) each day, both at hospitals as well as at observation station. Passengers, cargo, and luggage pay extra charges according to the hospital's tariff. Vessels in quarantine have to pay discharging expenses on goods for fumigation purposes; they also pay any expenses which hygienic measures may require before entering or leaving quarantine. Every facility however will be offered to vessels in this regard, and no steps will be taken without the captain's knowledge or intervention.

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THEODOR MERTENS,
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LIGHT DUES.

It is now a great number of years since the light dues were abolished in Spain, being now included as the actual so-called "navigation taxes." See Tonnage dues.

tion, unless it appears from official notice that some contagious disease had broken out at the port from whence the vessel sailed and after her departure.

All vessels with clean bills of health, and without suspicion of disease on board, leaving the ports of the Antilles, Gulf of Mexico, Guayra, and Casta Firma, between the 1st day of May and the 30th of September, are obliged to undergo qarantine for seven days, both vessel and persons, at Vigo and Santander.

If the bill of health is foul the vessel is sent for quarantine to the lazaretto to perform the number of days prescribed according to the disease.

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Notwithstanding a clean bill of health, vessels may be subject to foul treatment if not considered in good hygienic condition.

List of diseases quarantined and duration for each and from each port: Levantine pest, fifteen days rigorous; yellow fever, with no cases on board, ten days rigorous; yellow fever, with cases on board, fifteen days rigorous; Asiatic cholera, with cases, same as in yellow fever.

Vessels from countries contiguous to those having the above diseases have three days of quarantine of observation.

Vessels from ports which have suffered from the pest, yellow fever, or Asiatic cholera, will be subject to quarantine some time after their cessation has been officially declared, thirty days in ordinary cases of the pests, and twenty for yeilow fever and Asiatic cholera.

The vessel bears the expense for the detention, and for fumigation each person, and the cargo pays the rates prescribed.

The general direction of quarantine is placed by law with the ministry of the Government (Gobernación) and under it with the civil governor of the respective provinces.

DARIUS H. INGRAHAM,
Consul.

UNITED STATES CONSULATE,
Cadiz, August 20, 1809.

GRAO DE VALENCIA.

REPORT BY CONSULAR AGENT MERTENS.

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LIGHT AND TONNAGE DUES.

Light dues are abandoned now in this port. The harbor light-house is located at the extreme end of the eastern mole, showing a fixed red

light which is 8.50 metres in height over the level of the sea, and 6.50 metres high from the ground it stands on. Its strength is calculated to reach about 9 miles.

Tonnage dues are paid by all vessels alike without regard to flag, and no nationality enjoying special privileges, at the following rates, viz: Charges are levied on the tonnage each vessel charges or discharges in this port, *i. e.*, 1.25 pesetas per ton on discharging goods, and 1 peseta per ton on loading goods to or from European ports; 2.50 pesetas per ton on discharging goods, and 2 pesetas per ton on loading goods to or from foreign ports, not European.

QUARANTINE.

As epidemics or contagious diseases are considered yellow fever, cholera morbus (Asiatic), pest (Levantine), any bill of health stating these diseases at port of departure, the vessel will have to observe ten days' quarantine without any such case on board, and fifteen days' quarantine with such sickness on board.

Vessels coming from countries situated near another country infested with said epidemics, have to submit to a quarantine of three days of twenty-four hours each at an observation station. This observation, however, is subject to alteration by the board of health considering the disease. Every vessel has to pay 0.06¼ peseta per ton (Morson) each day, both at hospitals as well as at observation station. Passengers, cargo, and luggage pay extra charges according to the hospital's tariff. Vessels in quarantine have to pay discharging expenses on goods for fumigation purposes; they also pay any expenses which hygienic measures may require before entering or leaving quarantine. Every facility however will be offered to vessels in this regard, and no steps will be taken without the captain's knowledge or intervention.

Passengers have to pay for any expenses they incur, besides 1 peseta daily, for lodging only.

Quarantine rules are established by the General Government.

THEODOR MERTENS,
Consular Agent.

UNITED STATES CONSULAR AGENCY,
Grao, February 16, 1890.

CARTHAGENA.

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PILOTAGE.

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Pilotage is charged the same for foreign vessels as for vessels of the country when trading as above. No foreign flag enjoys any special privileges in this regard. Vessels in distress, as well as foreign and this country war ships, pay pilotage.

LIGHT DUES.

It is now a great number of years since the light dues were abolished in Spain, being now included as the actual so-called "navigation taxes." See Tonnage dues.

LIGHTS.

The lights in my consular district are the following:

Port of Aquilas: One fixed light situated on Punta Negra; visible 5 miles; altitude, 12.08 metres over the level of the sea, 8.04 metres over the level of the ground. On the same port there is one fixed red light situated on the breakwater, altitude 9.04 metres.

Mazarron: One fixed light situated on a small promontory; visible 7 miles; altitude 42 metres over the level of the sea, 8.05 metres over the level of the ground.

Cape Tiñoso: One fixed light situated on the same cape, visible 20 miles; altitude 149 metres over the level of the sea, 10.02 metres over the level of the ground.

Carthagena: One fixed light situated on Podadera Point, visible 10 miles; altitude 61 metres over the level of the sea; 8.05 metres over the level of the ground. One fixed red light on the extreme point of the outer breakwater (Navidad); visible 4 miles; altitude 4.25 metres over the level of the sea; also one fixed green light on the extreme point of the inner breakwater (Curra); visible 2 miles; altitude 6.50 metres over the level of the sea.

Isla de Escombrera: (Escombrera Island.) One fixed red light, situated on the top of said island, visible 4 miles; altitude 64.05 metres over the level of the sea, 9 metres ever the level of the ground.

Porman: One fixed light situated on the hill called "Chapa," visible 9 miles, altitude 49.04 metres over the level of the sea, 8.03 metres over the level of the ground.

Cape Palos: One moveable first-class light, situated on the extreme and highest prominence of the cape, visible 23 miles, altitude 80.03 metres over the level of the sea, 50.03 metres over the level of the ground.

Hormiga Grande: One fixed light situated on the highest prominence of the Hormiga, visible 10 miles, altitude 25 metres over the level of the sea, 12.04 metres over the level of the ground.

TONNAGE DUES (IMPORT).

These dues are now called "navigation tax" (see Light dues) and they embrace all light, port, and custom-house dues, except the harbor works dues, and are collected here and in all Spain and adjacent islands by the custom-house officials from all classes of vessels, whether in foreign or coasting trade, when coming or leaving with cargoes. Ships in ballast or in distress or calling for orders, as well as those not discharging or loading any cargo or shipping or landing passengers, are exempted from paying any dues. The dues are levied on the number of tons of cargo actually loaded or discharged, whether a full or part cargo.

There is no discrimination in favor or against vessels of the United States or those of other flags.

Spanish vessels are treated on the same footing, but they are, however, the only ships allowed in the coasting trade, and no vessels of any nationality enjoy special privileges.

The navigation and the dues are classified in three sorts, and the dues ("navigation tax") therefore charged accordingly, viz: First, coasting trade (allowed to Spanish ships only), 15 cents per 1,000 kilogrammes of cargo discharged, and 10 cents per every passenger landed; second, European trade, including the coasts of Asia and Africa on the Mediterranean, and on the Atlantic up to Cape Mogador, 25 cents per 1,000

kilogrammes of cargo discharged and 15 cents per passenger landed; third, trade between the Spanish ports and any of all the rest of the globe, 50 cents per 1,000 kilogrammes of cargo discharged and 25 cents per passenger landed. Vessels with coke or coals are, however, exempted, which are only charged 5 cents per 1,000 kilogrammes of cargo discharged on the foreign trade and 2 cents on the coasting trade.

There is besides a local charge on the above dues which at this port amounts to 50 per cent. over any of the dues for harbor works.

This charge is not equal at all Spanish ports.

TONNAGE DUES (EXPORTS).

First, coasting trade allowed only to country vessels, the charges are 10 cents on every 1,000 kilogrammes; second, European trade, 20 cents per 1,000 kilogrammes; third, trade between Spanish ports to any of the rest of the globe, 40 cents per 1,000 kilogrammes of cargo loaded. Vessels loading iron ore are, however, charged only 5 cents per 1,000 kilogrammes on the European trade and 10 cents per 1,000 kilogrammes of ore loaded on the so-called third-class navigation, which comprises thus all the United States ports.

QUARANTINE.

The list of quarantined diseases at this and at all other Spanish ports are as follows: Cholera, yellow fever, Levantine plague, cattle plague. The present places declared infected or suspected and their arrivals subject to a vigorous quarantine of 7 to 15 days, same to be performed at a foul lazaretto are the following, viz: America—Tampa, Guayaquil, States of Florida, Mississippi, and Alabama. Piura and Trujillo (Peru). Asia: The China Empire (less Amoy), cholera; Persian Gulf, cholera and Levantine plague; Tonkin, cholera; Yemen and the coast of Lohaya, cattle plague; Zamboanga (Philippine Islands), cholera.

Vessels arriving and having previously left between the 1st of May and the 30th September the Antilles, Cuba, or any of the ports on the Gulf of Mexico, States of Florida and Georgia, are liable to 7 to 16 days' quarantine at a foul lazaretto. Vessels arriving with a clean bill of health and having previously called at a suspected port, and those vessels also whose health on board is suspicious, are subject to 3 days' quarantine, which is allowed to be performed at port of arrival.

Those ships which having loaded at or sailed in ballast from an infected or suspected port for a country or foreign port and having left for a country or foreign port either in ballast or with a new cargo as an intermediate port and arriving thus here (or any port in Spain) with a clean bill health and even with a new crew, but without producing a certificate from a Spanish sanitary authority or consul (if from foreign ports) showing having already undergone a rigorous quarantine and been fumigated, are liable from 3 to 5 days observation, no matter into how many intermediate ports they might have been before within a period of 2 years from the date of their primitive departure from the aforesaid infected or suspected port.

"Foul lazarettos," where rigorous quarantines can be performed, there are only four in Spain, viz, Port Mahon in the Mediterranean; San Simon, Pedrosa, and Oza in the Atlantic-Spanish coast.

The quarantine and fumigation dues on cargo and passengers are invariably charged to the ships, and they are collected by the collector of customs.

The quarantine dues are 2½ cents per register ton per day.

The fumigation charges varies, they being generally left discretional under a moderate scale to the sanitary officials.

The quarantine rules are established by the General Government.

CIRILO MOLINA Y CROS,
Consul.

UNITED STATES CONSULATE,
Carthagena, October 4, 1889.

MALAGA.

REPORT BY CONSUL MARSTON.

PILOTAGE.

Pilotage is compulsory, unless under 50 tons. Should such a vessel come from a foreign port she has to pay according to tariff.

Vessels in distress pay pilotage. Foreign war vessels taking pilots pay for the same, but not if they do not accept the services of same. All war vessels entering the port pay the mooring pilot according to tariff.

LIGHTS AND LIGHT DUES.

Light dues in Spain have been suppressed, but there has been substituted in their stead what is called "derechos de descarga," which has been added to the tonnage dues, and are included under that head.

The increase added to tonnage dues, on account of the suppression of light dues, are considered for all cargo discharged at any one port; if cargo is discharged in two ports or more the amount collected is in proportion to the cargo discharged at each. These dues are payable whether there is or is not a light.

The character of the light is good; the altitude of the Malaga light is about 38 metres above sea level. Shows flash light red and white, alternating every ninety seconds, and can be seen 15 miles at sea.

The charges are collected through the custom-house on clearing the vessel.

There is no discrimination in favor of or against vessels of the United States. The charges on Spanish are the same as on foreign vessels.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels, whether on the foreign or coasting trade, laden or in ballast. The tariff is as follows: Inwards: Vessels from American ports are charged 2.50 pesetas; from European ports, 1.25 pesetas. Outwards: For American ports, 2 pesetas; for European ports, 1 peseta. In all cases for every 1,000 kilogrammes discharged or loaded, besides this charge, there is a tariff called harbor dues, ruling as follows: On all cargo discharged, 0.688 peseta per 1,000 kilogrammes from America, and 0.575 peseta per 1,000 kilogrammes from European ports. There is no discrimination in regard to flag. Vessels of no nationality enjoy special privileges.

H. C. MARSTON,
Consul.

UNITED STATES CONSULATE,
Malaga, October 1889.

TURKEY.

CONSTANTINOPLE.

REPORT BY CONSUL-GENERAL PRINGLE.

PILOTAGE.

Pilotage is not compulsory. Pilot charges are the same for Turkish as for foreign vessels. No foreign flag enjoys special privileges in this regard.

Vessels in distress and foreign war vessels pay pilotage only when they take a pilot on board.

LIGHT DUES.

Light dues are payable at more than one port in the Empire during the same voyage.

The general character of the lights in the Ottoman Empire is very good. The number of light-ships and light-houses is one hundred and thirty-seven, extending from the Black Sea (Asiatic coast included) to Jaffa, the coast of Barbary as far as Bengazy, all the principal islands of the Grecian Archipelago. The altitude, distance visible, etc., greatly varies.

The rates charged vary according to a vessel's destination. These are the rates:

	Cents.
From Archipelago to Constantinople, and *vice versa*, per ton (English)	4.4
Beyond 800 tons	2.2
From the Archipelago to the Black Sea, and *vice versa*, per ton (English)	6.6
Beyond 800 tons	3.3
Coasting trade:	
From Constantinople to the Black Sea, and *vice versa*, per ton (English)	3.3
Over 800 tons	1.7
Vessels bound to the gulfs of Soros and Enos, as well as to Sandthraks, Imbros, Tenedos, and Sogri, and not entering the straits of the Dardanelles, per ton (English)	1.2
Over 800 tons	6.1
Between the Dardanelles and Constantinople, per ton (English)	2.
Between Gallipoli and Constantinople, per ton (English)	1.5
From Kara-Bournow (Black Sea) to Constantinople, per ton (English)	1.5

No rates are charged per foot of draft.

The dues are collected from captain or clearing agent.

There is no discrimination in favor or against vessels of the United States.

Native, foreign, and coasting vessels pay the same as United States vessels.

TONNAGE DUES.

No tonnage dues are collected from any class of vessels, whether foreign or native, in the Ottoman Empire. There exists, however, a port or buoy due, which is 4.4 mills per ton for the first four days and 8.8 mills per ton after that, if a buoy is taken or if the vessel enters the port laden or in ballast. The coasting trade pays 4.4 mills per ton, laden or in ballast.

Permits to leave the straits of the Bosphorus and the Dardanelles are: For sailing vessels, $3; for steamers, $1.

There is no discrimination in this regard.

No vessels of any nationality enjoy special privileges.

QUARANTINE.

The rules as to quarantine are very strictly observed. The general sanitary board sits at Constantinople, and besides the Turkish members each foreign power is represented by a delegate having power to vote. This sanitary board has established the following rates to be charged to all vessels entering these waters: From 1 to 500 tons (English), 2.2 cents; from 501 to 1,000 tons, 1.4 cents; over 1,000 tons 0.008 cent.

The list of diseases quarantined are plague, yellow fever, cholera. The duration of quarantine for each and from each port is, for plague, 21 days; for yellow fever, 7 days; for cholera, 10 days.

If a vessel has had no case of disease on board since she left port, and has been at sea some days beyond the term of her quarantine, these days will be deducted from her term of quarantine. For example, a vessel undergoes quarantine for cholera, and has been 13 days at sea with no case of cholera on board; her term of quarantine will be 7 days.

The ship or those who are quarantined bear the expense, as the case may be.

The quarantine rules are established by the superior sanitary council and sanctioned by the Imperial Government.

LIFE-SAVING SERVICE.

Very efficient and well-organized life-saving stations are situated one on either side of the entrance to the Bosphorus from the Black Sea, one on the European shore at Kilia, and the other on the Asiatic shore at Riva. All vessels coming to this port pay a penny a ton towards this most useful service.

D. LYNCH PRINGLE,
Consul General.

UNITED STATES CONSULATE,
Constantinople, August 20, 1889.

UNITED KINGDOM.

REPORT BY CONSUL JONES, OF CARDIFF.

PLAN OF REPORT.

An attempt has been made in the following pages to supply the information called for by the Department, in respect of pilotage, light dues, tonnage dues, and quarantine, in the most condensed form possible without sacrificing intelligence.

It has been assumed that the specific information supplied is intended for persons possessing a general knowledge of the subjects. The accompanying books will supply the more complete texts digested for the purpose of this report.

The plan adopted is this: The questions submitted by the Department in the circular dated 15th July, 1889, are first answered. Then is given a digest of the sections of acts of Parliament upon which the answers are based, and which, indeed, control the subject.

For example, in dealing with pilotage, answers are given with brevity; then a digest of the merchant shipping act, 1854, part V, sections

330 to 388; and, finally, complete details are supplied of nearly all the customs ports of the United Kingdom, with charges, particulars, and explanations. These have been extracted from The Shipping World Year Book for 1889, and the extracts have in every instance been verified by the port or harbor authority.

In like manner answers have been made and the relevant sections of the act of Parliament have been digested in the chapter devoted to light dues. The best book on the subject, viz., Seamarks, by Mr. E. Price Edwards, is forwarded with this report. Reference is made to the appendix to the volume; it consists of a "List of the principal coast lights of the British islands." Leaflets giving particulars of alterations and additions to the lights are published by the board of trade from time to time.

The space devoted to tonnage dues is small, but all necessary information under this head will be found in the Shipping World Year Book, which is sent with this report.

The plan already explained has been adhered to in the chapter on quarantine laws and regulations. Acts of Parliament governing the subject are sent herewith.

PILOTAGE.

Pilotage is compulsory only in Trinity House districts (with stated exceptions), on both English and foreign ships.

Pilotage charges are the same both for English and foreign vessels, with one exception, at Drogheda, in Ireland, where a difference appears to be made. (See Drogheda, Appendix A.)

No foreign flag enjoys any privilege.

Vessels in distress pay pilotage if anchoring in districts where pilotage is compulsory, or if bound to districts where it is compulsory. Foreign war vessels pay pilotage.

POWERS AND DUTIES OF PILOT AUTHORITIES.

The merchant shipping act, 1854, part 5, sections 330 to 388, deals with the subject of pilotage in the United Kingdom. The general pilotage powers possessed at the passing of the act by pilotage authorities are confirmed so far as they are consistent with the provisions of the act.

Power is given to pilotage authorities to make and extend exemption from compulsory pilotage.

Every pilotage authority, by by-laws made with the consent of Her Majesty in council, may determine qualifications of pilots; make regulations as to pilot boats and for the government of pilots; issue regulations as to licenses and certificates, and may alter and reduce rates of pilotage and arrange the limits of pilotage districts.

Powers are also given to pilotage authorities to alter by-laws after due publication as prescribed by board of trade. By-laws have to be submitted to Parliament. Powers of appeal to board of trade against any regulation or by-law is given to a majority of qualified pilots at any port, or to local marine board; or to masters, owners, or insurers of ships being not less than six in number. Power of board of trade to alter or revoke any by-laws or regulations is provided for.

Returns are to be made periodically by pilotage authorities to the board of trade showing the by-laws, regulations, and ordinances in force; the names and ages of all pilots and apprentices, service for which each

is licensed, and amounts received for pilotage from British and foreign ships respectively and for different classes of ships paying different rates, etc., and as to receipt and expenditure of funds. Permission is accorded to board of trade to inspect any books or documents in connection with such returns.

If the local authorities fail to give the required returns, their jurisdiction may be transferred to the Trinity House by orders of Her Majesty in council. Board of trade are to lay returns before Parliament.

PILOT CERTIFICATES.

Masters and mates may be examined by pilotage authorities, and on passing are entitled to receive pilotage certificates enabling them to pilot particular ships.

The board of trade has power to grant pilotage certificates to any master or mate where pilotage authority refuse to grant the same without due cause; also, power is given to pilotage authority or board of trade to charge certain fees for granting or renewing such certificates. The pilotage authority has power to withdraw certificates for misconduct or incompetency.

PILOT BOATS.

Pilot boats are to be approved and licensed by the district authority, and are to be distinguished by certain characteristics of color, name, and flag. Default in this respect renders the master liable to penalty of £20. Qualified pilot carried off in a boat or ship not in pilotage service shall display proper flag, under penalty for default of £50. A like penalty is incurred by the master or owner of an ordinary boat wrongfully displaying a pilot flag.

PILOT LICENSES.

Pilot licenses are to be registered with principal officer of customs, and copies of regulations are to be furnished to each licensed pilot, which are to be produced to any master or other person employing him, when required, under a penalty of £5.

Qualified pilots are bound to produce their licenses when required to persons employing them, under a penalty of £10, besides being liable to dismissal or suspension by the pilotage authority. Licenses are required to be given up to pilotage authority when required, or on the death of the holder. Breach of this provision incurs a penalty of £10.

COMPULSORY PILOTAGE.

Compulsory pilotage is continued in all districts in which it was in force at the time of passing this act; all exemptions then existing are continued. Masters of unexempted ships navigating within any such district, after a qualified pilot has offered to take charge, or who pilot themselves without possessing the necessary pilotage certificate, or who employ unqualified persons, incur a penalty of double the amount of pilotage fees.

HOME TRADE PASSENGER SHIPS.

Home trade passenger ships to employ qualified pilots when within pilotage districts unless they have certificated masters or mates with necessary pilotage certificates, under a penalty of £100.

RIGHTS, PRIVILEGES, AND REMUNERATION OF PILOTS.

Sections 356 to 364: Qualified pilots on board of any boat or ship and leading another which can not be boarded is entitled to pilotage. Increased allowance to qualified pilot unavoidably taken out of his district provided. Penalty imposed on qualified pilot receiving or master offering an improper rate. Penalty incurred by master on making a false declaration to pilot as to draft of ship or falsifying marks. Power given to qualified pilot to supersede unqualified pilot. Penalty provided against any unqualified pilot acting as pilot. Special occasions defined on which unqualified persons may act as pilots. Provisions for liability for and recovery of pilotage dues. Power for consignees to retain pilotage dues paid by them.

OFFENSES OF PILOTS.

Sections 365 to 367 deal with offenses of pilots and define penalties.

TRINITY HOUSE.

Trinity House, sections 368 to 379: Power given to Trinity House to appoint subcommissioners and to alter regulations.

Trinity House to act within certain districts, viz:

(1) The "London district," comprising the waters of the Thames and Medway as high as London Bridge and Rochester bridges respectively, and also the seas and channels leading thereto or therefrom as far as Oxfordness to the north and Dungeness to the south; so nevertheless that no pilot shall hereafter be licensed to conduct ships both above and below Gravesend.

(2) The "English Channel" district, comprising the seas between Dungeness and the Isle of Wight.

(3) The "Trinity House outport" districts, comprising any pilotage district for the appointment of pilots within which no particular provision is made by act of Parliament or charter.

Trinity House bound to publish names and addresses and limits of district of each pilot holding its license, etc.

Certain bonds to be given by each pilot on appointment to duly observe by-laws and regulations.

Power of Trinity House to continue and renew licenses, also to revoke and suspend same.

Compulsory pilotage, sections 376 to 379, subject to alterations by Trinity House, and to exemptions hereinafter mentioned.

The pilotage districts within which employment of pilots is compulsory are the "London" district and the "Trinity House outport" districts hereinbefore defined.

The master of any vessel navigating such districts (after a qualified pilot offers his services) or employing an unqualified person is subject to an additional penalty of £5 for every 50 tons burden of such ship.

The Trinity House is bound to make regulations for a constant supply of qualified pilots at Dungeness.

A ship coming past Dungeness from westward and bound to the Thames or the Medway (unless she has a properly qualified pilot on board, or is exempt from compulsory pilotage) is bound to take the first qualified pilot who offers his services, and incurs a penalty for failing to display the usual signs for a pilot.

EXEMPTIONS FROM COMPULSORY PILOTAGE.

The exemptions from compulsory pilotage in the "London" district and "Trinity Outport" districts are as follows:

(1) Ships employed in the coasting trade of the United Kingdom.

(2) Ships of not more than 60 tons burden.

(3) Ships trading to Boulogne or any place in Europe north of Boulogne.

(4) Ships from Guernsey, Jersey, Alderney, Sark, or Man which are wholly laden with stone, being the produce of these islands.

(5) Ships navigating within the limits of the port to which they belong.

(6) Ships passing through the limits of any pilotage district on their voyages between two places, both situated out of such limits, and not being bound to any place within such limits, nor anchoring therein.

RATES OF PILOTAGE.

Dues payable to Trinity House pilots at time of passing of act to be continued, subject to any alteration made by Trinity House.

Payment of pilotage by foreign ships to and from port of London: Inward ships, the full amount of dues for distance piloted; and ships outward, the full amount for distance required by law. Payment to be made to collector of customs, and certificate of payment of pilotage to be given before clearance or transire granted.

APPLICATION OF DUES FROM FOREIGN SHIPS.

Sections 383 and 384. Application of dues from foreign ships: Trinity House to pay dues to pilots after deducting necessary poundage, residue to go to Trinity House pilots' fund.

DRAFT OF SHIP.

Section 384. In case of difference arising between the master and a qualified pilot of any ship trading to and from the port of London, the Trinity House, upon the application of either party to appoint a proper officer to measure and obtain proper draft of water. The fee of such officer to be 1 guinea if the vessel be below, and half a guinea if above the entrance to the London docks, and to be payable by that party against whom the decision is made.

PILOT FUND.

Trinity House pilot fund. Sections 385–386. Payments to be made to Trinity House pilot fund:

(1) Six pence in the pound upon pilotage earnings of all pilots licensed by the Trinity House.

(2) A sum of 3 guineas to be paid on the 1st day of January in each year by every person licensed by the Trinity House to act as pilot in any district not under the superintendence of subcommissioners, or in any part of such district.

Penalty provided against qualified pilots giving a false account of their earnings, such pilots being also liable to suspension or dismissal.

The Trinity House pilot fund after payment of expenses not subject *to any* alteration by Trinity House, and to be administered for the

benefit of pilots licensed after October 1, 1853, as they may become incapacitated for duty by reason of age, infirmity, or accident, or of their widows and children.

SUBCOMMISSIONERS OF HULL AND NEWCASTLE.

Section 387. The Trinity Houses of Hull and Newcastle shall continue to appoint subcommissioners, not more than seven nor less than three, for the purpose of examining pilots in districts in which they have been used to make such appointments, and with the consent of Her Majesty in council, but not otherwise, may appoint like subcommissioners for any other district under their respective jurisdictions; but no district already under their jurisdiction to be extended except with such consent; and no subcommissioners appointed or to be appointed by Trinity Houses of Hull or Newcastle shall be deemed to be pilotage authorities within the meaning of this act.

OWNERS AND MASTERS' RIGHTS, COMPULSORY PILOTAGE.

Section 388. The owner or master of any ship to be answerable for any loss or damage occasioned by the fault or incapacity of any qualified pilot acting in charge of such ship, within the district where the employment of such pilot is compulsory by law.

The following particulars relating to pilotage, rates, etc., have been extracted from The Shipping World Year Book:

Aberdeen, Aberdeenshire. On the Dee. Pilotage not compulsory.

Pilotage; district: The harbors, the rivers Dee and Don, the coast between these rivers, and the coast southward from the mouth of the Dee to the extremity of the city's precincts or boundary on the Torry or south side of the Dee. On the Dee being diverted as authorized by the "Aberdeen Harbor act, 1868," the limitation shall extend and apply to that river when diverted. Inwards pilotage rates:

Sailing vessels:	£.	s.	d.
For vessels under 50 tons	0	5	0
50 and under 75	0	7	6
75 " 100	0	10	0
100 " 150	0	12	6
150 " 200	0	15	0
200 " 250	0	17	6
250 " 300	1	0	0
300 " 400	1	5	0
400 " 500	1	10	0
500 " 600	1	15	0
600 " 700	2	0	0
700 " 800	2	5	0
800 " 900	2	10	0
900 " 1,000	2	15	0
1,000 and upwards	3	0	0

Steam vessels:	£.	s.	d.
For vessels under 50 tons	0	5	0
50 and under 75	0	7	6
75 " 100	0	9	0
100 " 150	0	10	0
150 " 200	0	12	6
200 " 250	0	15	0
250 " 300	0	17	6
300 " 400	1	0	0
400 " 500	1	2	6
500 " 600	1	7	6
600 " 700	1	10	0
700 " 800	1	15	0
800 " 900	2	0	0
900 " 1,000	2	5	0
1,000 and upwards	2	10	0

Outward pilotage rates, one-half the inward rate, but not in any case less than 5*s*. For any vessel arriving in the lower basin or tidal harbor after the dock gates are shut: For vessels under 150 tons, 3*s*.; for vessels 150 tons and upwards, 5*s*. For each tide's work in the harbor each man in boat, 2*s*. For any vessel beyond a radius of 2 miles from the eastern extremity of the north pier making a signal for a pilot, such sum as the captain pilot may decide over and above the ordinary rate of pilotage. For any vessel calling in the bay for orders and not entering the harbor, requiring the services of a pilot boat, 20*s*., which shall include taking off orders. If after the expiry of twelve hours any pilot is detained on board, he shall be paid 2*s*. 6*d*. for each tide during which he is detained; and if, after the expiry of such time, the pilot boat is required, 1*s*. for each man in boat for each passage between the harbor and vessel.

Aberystwith, Cardiganshire, Wales. At the joint outlets of the rivers Rheidol and Ystwith. Pilotage not compulsory; district not defined. Rates, as per agreement.

Alloa, Clackmannanshire. On north bank of Firth of Forth, 30 miles above Queens-

ferry. District from St. Abb's Head to Alloa and *vice versa*. Pilotage not compulsory. Rates same as Leith.

Arbroath, Forfarshire. Pilotage not compulsory.

Pilotage; district: Pilots are licensed for the harbor only. Rates per ton: Coasting sailing vessels, 4*d*. per ton; coasting steamers, 3*d*. per ton; foreign trade sailing vessels, 4½*d*. per ton; foreign steamers, 3*d*. per ton. In addition to these, rates are levied (for providing the pilot master's salary), viz: Under 80 tons, 1*s*.; 80 and under 100 tons, 1*s*. 6*d*.; 100 and under 120 tons, 2*s*.; 120 and under 150 tons, 3*s*.; 150 and under 180 tons, 4*s*.; 180 and under 200 tons, 5*s*.; 200 tons and upwards, 7*s*. 6*d*.

Ardrossan, Ayrshire. Pilotage not compulsory. Rates by agreement.

Ayr, Ayrshire. Pilotage not compulsory.

Pilotage; district: Into and out of the harbor of Ayr to a safe distance at sea, say 3 miles. Rates: Vessels engaged in the coasting trade 1*d*. ton; vessels engaged in the foreign trade, 2*d*. ton.

Banff, Banffshire. Pilotage not compulsory. District not defined. Rates: Outwards or inwards, 2*d*. per ton.

Barnstable, Devonshire. On the river Taw. Pilotage not compulsory. District not defined. Rates by agreement.

Barrow-in-Furness, Lancashire. Pilotage compulsory.

Pilotage; district: From sea (that is, Morecambe Bay light-ship) into and out of the harbor and along the coast from Formby Point to Haverigg Point of Duddon. Rates on vessels employed in the oversea trade, per foot draft.

[Per foot draft.]

	Under 200 tons register.	200 tons and under 600 tons register.	600 tons and under 1,000 tons register.	1,000 tons register and upwards.
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
From within lines from Morecambe Bay light-ship to Formby Point and Haverigg Point respectively to the docks at Barrow, and *vice versa*	6 0	8 0	9 0	10 0
From within lines from Morecambe Bay light-ship to Formby Point and Haverigg Point respectively to the anchorage at Piel or the Wyre light-house, and *vice versa*	4 6	6 0	7 0	8 0
From within a line with Black Comb, bearing NNE., and outside Hilpsford Buoy to the docks at Barrow, and *vice versa*	4 0	5 0	6 0	7 0
From within a line with Black Comb, bearing NNE., and outside Hilpsford Buoy to the anchorage at Piel or the Wyre light-house, and *vice versa*	2 6	3 0	4 0	5 0
From Hilpsford Buoy, or within the same, to the dock at Barrow, and *vice versa*	2 6	3 0	4 0	5 0
From Hilpsford Buoy, or within the same, to the anchorage at Piel, and *vice versa*	1 0	1 6	2 0	2 6
From within Piel Anchorage to the docks at Barrow, and *vice versa*	1 6	2 0	2 6	3 0
From Wyre light-house to the docks at Barrow, and *vice versa*	4 0	5 0	6 0	7 0
From Wyre light-house to the anchorage at Piel, and *vice versa*	2 6	3 0	4 0	5 0
From north of a line from Morecambe Bay light-ship and Walney Light, and inside the NNE. line, to Wyre light-house, and *vice versa*	2 6	3 0	4 0	5 0
From south of a line from Morecambe Bay light-ship and Walney Light, and inside the NNE. line, to Wyre light-house, and *vice versa*	2 0	2 6	3 0	4 0

On vessels employed in the coasting trade one-half of these rates. Additional rate, for intermediate portions of a foot draft, as follows, viz: For 3 inches and under, no addition; for more than 3 inches and under 9 inches, the medium between the two rates; for 9 inches and upwards, the rate for the next foot. For transporting ships from one berth to another within the harbor, 10*s*. 6*d*. If a master retain or employ a pilot whilst at anchor, the lay days to be 7*s*. 6*d*. per day. All coasting steam vessels making more than one voyage per week pay half these rates.

Beaumaris, Anglesea, Wales. Pilotage not compulsory. Pilotage; district: From Port Dinorwic or Moel-y-Don through the Swellies to a line drawn from Great Orme

Head to Point Linas and *vice versa*. N. B.—No master of a vessel is compelled to take a pilot within this district, except on coming in or going out of port. Rates:

Rates.

	For vessels drawing—									
	11 feet and under.	12 feet.	13 feet.	14 feet.	15 feet.	16 feet.	17 feet.	18 feet.	19 feet.	20 feet.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
From outside the sound into the bay, or into Conway	2 6	3 0	3 6	4 0	4 6	5 0	5 6	6 0	6 6	7 0
From inside the sound into the bay	2 0	2 6	3 0	3 6	4 0	4 6	5 0	5 6	6 0	6 6
For the pilotage outwards	2 0	2 6	3 0	3 6	4 0	4 6	5 0	5 6	6 0	6 6

From Cadnant to Port Dinorwic, and *vice versa*, vessels drawing 7 feet water and under 4*s.*; more than 7 feet, 9*d.* foot. From Cadnant to Caernarvon (no Caenarvon pilot offering), vessels drawing 7 feet water and under, 6*s.*; more than 7 feet water, 1*s.* foot. Pilots taking vessels into Conway are entitled, in addition to their pilotage, to 7*s.* 6*d.* for returning to Beaumaris. Should the pilot be landed at Great Orme Head, extra 42*s.*; if taken (out of the limits of his license) to Chester or Liverpool, 63*s.*; in case the pilot should happen to have charge of the vessel to either of the said places, 105*s*; 7*s.* 6*d.* per day allowed pilot for every day detained on board.

Belfast, Antrim. Pilotage compulsory.

Pilotage; district: Larne Harbor, county Antrim, to Ballyhalbert Bay, county Down. Rates:

Harbor pilotage.

INWARD.

Registered tonnage.	On vessels not steamers.		On vessels being steamers.		On vessels towed by steamers.	
	If boarded seaward of line from Seapark House to Craigavad House.	If boarded at entrance of Victoria Channel or at Holywood lighthouse.	If boarded seaward of line from Seapark House to Craigavad House.	If boarded at entrance of Victoria Channel or at Holywood lighthouse.	If boarded seaward of line from Seapark House to Craigavad House.	If boarded at entrance of Victoria Channel or at Holywood lighthouse.
	£ *s. d.*	£ *s. d.*	£ *s. d.*	£ *s. d.*	£ *s. d.*	£ *s. d.*
30 and under 40	0 5 0	0 3 6	0 3 3	0 2 3	0 3 9	0 2 6
40 " 50	0 6 3	0 4 6	0 4 3	0 3 0	0 4 9	0 3 6
50 " 60	0 7 6	0 5 6	0 5 0	0 3 6	0 5 9	0 4 0
60 " 70	0 8 9	0 6 6	0 6 0	0 4 3	0 6 6	0 5 0
70 " 80	0 10 0	0 7 0	0 6 6	0 4 9	0 7 6	0 5 3
80 " 90	0 11 3	0 8 0	0 7 3	0 5 3	0 8 6	0 6 0
90 " 100	0 12 6	0 9 0	0 8 6	0 6 0	0 9 6	0 6 9
100 " 110	0 13 9	0 10 0	0 9 6	0 6 9	0 10 3	0 7 6
110 " 120	0 15 6	0 11 0	0 10 3	0 7 3	0 11 9	0 8 3
120 " 130	0 17 6	0 12 6	0 11 6	0 8 3	0 13 3	0 9 6
130 " 140	0 19 3	0 14 0	0 13 0	0 9 3	0 14 6	0 10 6
140 " 150	1 1 3	0 15 0	0 14 0	0 10 0	0 16 0	0 11 3
150 " 160	1 2 6	0 16 0	0 15 0	0 10 9	0 17 0	0 12 0
160 " 175	1 3 9	0 17 0	0 15 9	0 11 3	0 17 9	0 12 9
175 " 200	1 6 3	0 19 0	0 18 0	0 12 9	0 19 9	0 14 3
200 " 225	1 8 0	1 0 0	0 18 6	0 13 3	1 1 0	0 15 0
225 " 250	1 9 3	1 1 0	0 19 6	0 14 0	1 2 0	0 15 9
250 " 275	1 10 6	1 2 0	1 0 9	0 14 9	1 3 0	0 16 6
275 " 300	1 12 6	1 3 0	1 1 3	0 15 3	1 4 6	0 17 3
300 " 325	1 15 0	1 5 0	1 3 6	0 16 9	1 6 3	0 18 9
325 " 350	1 17 0	1 6 0	1 4 3	0 17 3	1 7 9	0 19 6
350 " 375	1 18 9	1 8 0	1 6 3	0 18 9	1 9 0	1 1 0
375 " 400	2 0 6	1 9 0	1 7 0	0 19 3	1 10 6	1 1 9
400 " 450	2 2 6	1 10 0	1 8 0	1 0 0	1 12 0	1 2 6
450 " 500	2 5 0	1 12 6	1 10 0	1 1 3	1 13 9	1 4 0
500 " 600	2 10 0	1 16 0	1 13 7	1 4 0	1 17 6	1 7 0
600 " 700	2 15 0	1 19 0	1 16 6	1 6 0	2 1 3	1 9 3
700 " 800	3 0 0	2 3 0	2 1 0	1 9 3	2 5 0	1 12 3
800 " 900	3 5 0	2 6 6	2 3 6	1 11 0	2 8 9	1 15 0
900 " 1,000	3 10 0	2 10 0	2 6 6	1 13 3	2 12 6	1 17 6
1,000 " 1,100	3 15 0	2 13 6	2 10 0	1 15 9	2 16 3	2 0 0
1,100 " 1,200	4 0 0	2 17 0	2 13 3	1 18 0	3 0 0	2 2 9
Every additional 100 tons	0 5 0	0 3 6	0 3 6	0 2 3	0 3 9	0 2 6

Harbor Pilotage—Continued.

OUTWARDS.

Registered tonnage.	On vessels not steamers.			On vessels being steamers.			On vessels towed by steamers.			On vessels in ballast only optional.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
30 and under 40	0	5	0	0	3	3	0	3	9	0	3	3
40 " 50	0	6	3	0	4	3	0	4	9	0	4	3
50 " 60	0	7	6	0	5	0	0	5	9	0	5	0
60 " 70	0	8	9	0	6	0	0	6	6	0	6	0
70 " 80	0	10	0	0	6	6	0	7	6	0	6	0
80 " 90	0	11	3	0	7	3	0	8	6	0	6	0
90 " 100	0	12	6	0	8	6	0	9	6	0	7	0
100 " 110	0	13	9	0	9	6	0	10	3	0	7	0
110 " 120	0	15	6	0	10	3	0	11	9	0	7	0
120 " 130	0	17	6	0	11	6	0	13	3	0	7	0
130 " 140	0	18	3	0	13	0	0	14	6	0	8	0
140 " 150	1	1	3	0	14	0	0	16	0	0	8	0
150 " 160	1	2	6	0	15	0	0	17	0	0	8	0
160 " 175	1	3	9	0	15	9	0	17	9	0	9	6
175 " 200	1	6	3	0	18	0	0	19	9	0	9	6
200 " 225	1	8	0	0	18	6	1	1	0	0	11	6
225 " 250	1	9	3	0	19	6	1	2	0	0	12	0
250 " 275	1	10	6	1	0	9	1	3	0	0	12	0
275 " 300	1	12	6	1	1	3	1	4	6	0	13	0
300 " 325	1	15	0	1	3	6	1	6	3	0	13	0
325 " 350	1	17	0	1	4	3	1	7	9	0	14	0
350 " 375	1	18	9	1	6	3	1	9	0	0	15	6
375 " 400	2	0	6	1	7	0	1	10	6	0	16	0
400 " 450	2	2	6	1	8	0	1	12	0	0	17	0
450 " 500	2	5	0	1	10	0	1	13	9	0	18	0
500 " 600	2	10	0	1	13	7	1	17	6	1	0	0
600 " 700	2	15	0	1	16	6	2	1	3	1	2	0
700 " 800	3	0	0	2	1	0	2	5	0	1	4	0
800 " 900	3	5	0	2	3	6	2	8	9	1	6	0
900 " 1,000	3	10	0	2	6	6	1	12	6	1	8	0
1,000 " 1,100	3	15	0	2	10	0	2	16	3	1	10	0
1,100 " 1,200	4	0	0	2	13	3	3	0	0	1	12	0
Every additional 100 tons	0	5	0	0	3	6	0	3	9	0	2	0

NOTE—The maximum rate on vessels not having British registers arriving from or sailing on a foreign voyage, £10 16*s.*; on vessels with British registers arriving from or sailing on a foreign voyage, £8 2*s.*; on vessels not steamers trading to or from a port in United Kingdom, £5 8*s.*; on vessels being steamers, £3 5*s.* 6*d.*

Limits of out-pilotage: Larne Harbor, County Antrim, and Ballyhalbert, County Down.

Out-pilots outside the Black Head, or outside the buoy of the Brigs, to the Whitehouse Roads, of 200 tons or upwards, £2 2*s.* Above 100 and under 200 tons, £1 11*s.* 6*d.*; not exceeding 100 tons, £1. Outside the Gray Point, or outside Kilroot Point, of 200 tons or upwards, £1 1*s.*; above 100 and under 200 tons, 15*s.*; not exceeding 100 tons, 10*s.* Masters of vessels will take notice that the boats of the out-pilots have a white star on the bows.

Berwick-on-Tweed, Northumberland. Pilotage not compulsory.

Pilotage; district: From the sea, at the mouth of the river Tweed, up the river on both shores to the mouth of the river Whittader, where it flows into the Tweed, and also from the east end of the pier 2 miles in a straight line in every direction along the coast and into the sea. Rates (both inward and outward): In summer, viz, from April 1 to October 1, 1*s.* 3*d.*; in winter, viz, from October 1 to April 1, 1*s.* 6*d.* per foot; and for each tide's work within the harbor 7*s.* 6*d.*

Bo'Ness, Linlithgow. Pilotage not compulsory.

Pilotage, local: According to tonnage, inward and outward, from 8*s.* 6*d.* for vessels, under 100 tons registered to 35*s.* for vessels of 1,000 tons and upwards; vessels light or in ballast one-third less. Rates coastwise 1*s.*; foreign 1*s.* 6*d.* per foot.

Boston, Lincolnshire, On the Witham. Pilotage compulsory.

Pilotage, district: To the river Witham from the Grand Sluice in Boston, the Scalp, and also the roads, and all the Norman Deeps, and also all places, water courses, and streams of the Washes in all parts of Holland, extending to Wainfleet Haven, Pulley Heads, the Knock, the Dog's Head in the Pot, and to the uttermost limits of the flowing and ebbing of the above waters in the county of Norfolk. Rates: From High Horn, on Boston Toft, to Boston town, or *vice versa*, or intermediate distance, 1*s.* 6*d.* per foot if drawing 8½ feet; above 8½ feet and under 10½ feet, 1*s.* 9*d.* per foot; above 10½ feet, 2*s.* 6*d.* per foot.

Bridgwater, Somerset. An inland port on the river Parret. Pilotage compulsory.

Pilotage, district: Parts of the Bristol Channel and adjacent rivers and creeks, on the southeast side of and within an imaginary straight line drawn from Anchor Head on the east, to Watchet. Rates: From the extreme limits of the navigation, or from any point between such limits and the outer buoy of the Gore Sand, to the town, or to any point between the Black Rock and the town; also from the town to the limits of the navigation, or to any point between the outer buoy of the Gore Sand and the above limits: Not exceeding 60 tons registered, 12*s.* per vessel; exceeding 60 and not exceeding 80 tons, 1*s.* 3*d.* per foot; exceeding 80 and not exceeding 100 tons, 2*s.*; exceeding 100 and not exceeding 125 tons, 3*s.*; exceeding 125 and not exceeding 150 tons, 4*s.*; exceeding 150 and not exceeding 200 tons, 5*s.*; exceeding 200 tons and not exceeding 250 tons, 6*s.* 6*d.*; exceeding 250 tons, 8*s.* per foot draft.

Bristol, a county, city, and seaport on the river Avon, about 6½ miles above its junction with the river Severn. Pilotage compulsory.

Pilotage, district: Defined by the wharfage act of 1st August, 1807, 47 Geo. III., c. 33, to be to the east of Lundy Island; and in the case of "Hall *v.* Cardiff Pilotage Board," November 18, 1879, that is defined to be "eastward of a meridional line from north to south through Lundy," which line is 4° 40′ W. longitude. Rates:

Tonnage.	Between Lundy and Combe.			Between Lundy and Swansea or Minehead.			Between Lundy and Bridgwater, Cardiff, or the Holmes.			Between Lundy and Newport or Kingroad.			Between Combe and Minehead.			Between Combe and Bridgwater, Cardiff, or the Holmes.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
If 80 and under 100	1	1	0	2	2	0	2	12	6	3	3	0	1	1	0	1	11	6
100 " 200	1	8	0	2	16	0	3	10	0	4	4	0	1	8	0	2	2	0
200 " 300	1	15	0	3	10	0	4	7	6	5	5	0	1	15	0	2	12	6
300 " 500	2	2	0	4	4	0	5	5	0	6	6	0	2	2	0	3	3	0
500 " 600	2	9	0	4	18	0	6	2	6	7	7	0	2	9	0	3	13	6
600 " 800	2	16	0	5	12	0	7	0	0	8	8	0	2	16	0	4	4	0
800 " 1,000	3	3	0	6	6	0	7	17	6	9	9	0	3	3	0	4	14	6
1,000 and upwards	3	10	0	7	0	0	8	15	0	10	10	0	3	10	0	5	5	0

Tonnage.	Between Combe and Newport or Kingroad.			Between Minehead and Bridgwater, Cardiff, or the Holmes.			Between Minehead and Newport or Kingroad.			Between any of the following places: Portishead, Kingroad, Hungroad, Broad Pill, Cumberland Basin, or Bathurst Basin, and any other of such places.			Between any two of the following places, viz, Bridgwater, Cardiff, the Holmes, Newport, and Kingroad.		
	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.	£	s.	d.
If 80 and under 100	2	2	0	0	10	6	1	1	0	0	10	0	0	10	6
100 " 200	2	16	0	0	14	0	1	8	0	0	15	0	0	14	0
200 " 300	3	10	0	0	17	6	1	15	0	1	0	0	0	17	6
300 " 500	4	4	0	1	1	0	2	2	0	1	5	0	1	1	0
500 " 600	4	18	0	1	4	6	2	9	0	1	10	0	1	4	6
600 " 800	5	12	0	1	8	0	2	16	0	1	15	0	1	8	0
800 " 1,000	6	6	0	1	11	6	3	3	0	2	0	0	1	11	6
1,000 and upwards	7	0	0	1	15	0	3	10	0	2	5	0	1	15	0

Campbelton, Argyleshire. Pilotage not compulsory; district not defined; rates as per agreement, but generally vary between 20*s.* and 30*s.* per vessel.

Cardiff, seaport, S. Wales. Pilotage not compulsory.

Pilotage, district: The port of Cardiff and that portion of the Bristol Channel eastward of Lundy Island, up to and including Kingroad and the river Rhymney, to Rhymney Bridge. Rates per vessel: Between any dock or harbor in the port of Cardiff and any point in Cardiff Roads, or *vice versa*, for vessels laden and unladen:

	£	s.	d.
If under 60 tons	0	5	0
60 and under 100 tons	0	7	6
100 " 150 "	0	10	0
150 " 200 "	0	12	6
200 " 250 "	0	15	0
250 " 300 "	0	17	6
300 " 400 "	1	1	0
400 " 500 "	1	5	0
500 and under 600 tons	1	7	6
600 " 800 "	1	10	0
800 " 1,000 "	1	15	0
1,000 " 1,300 "	2	10	0
1,300 " 1,500 "	3	0	0
1,500 " 1,700 "	3	10	0
1,700 tons and upwards	4	0	0

From the port of Cardiff to any part of the Bristol Channel between Lundy Island and Kingroad, for a duly licensed pilot—

Tonnage.	Between Cardiff roads and Nash or Kingroad, or any point east of Nash and west of Kingroad.	Between Cardiff roads and Combe, or any point west of Nash and east of Combe.	Between Cardiff roads and Lundy Island, or any point west of Combe.
	£ s. d.	£ s. d.	£ s. d.
If under 150 tons	0 15 0	1 5 0	2 0 0
150 and under 200 tons	0 17 6	1 10 0	2 7 6
200 " 300 "	1 0 0	1 17 6	2 17 6
300 " 400 "	1 5 0	2 5 0	3 5 0
400 " 500 "	1 7 6	2 10 0	3 10 0
500 " 600 "	1 10 0	2 15 0	4 0 0
600 " 800 "	1 15 0	3 0 0	4 7 6
800 " 1,000 "	2 0 0	3 15 0	5 10 0
1,000 " 1,250 "	2 10 0	4 15 0	7 0 0
1,250 tons and upwards	3 0 0	5 15 0	8 10 0

Any pilot required to remain on board any ship or vessel shall be paid 10*s.* per day for every day he may be employed. For moving any ship or vessel from one dock or tidal harbor to another dock or tidal harbor, occupying only one tide, not exceeding 100 tons register, 5*s.*; 100 and not exceeding 300, 10*s.*; 300 and not exceeding 500, 12*s.* 6*d.*; 500 and not exceeding 800, 17*s.* 6*d.*; 800 and upwards, £1 5*s.*

Cardigan, Cardiganshire. Pilotage not compulsory. District not defined.

Carlisle, Cumberland. Pilotage not compulsory.

Carnarvon, Carnarvonshire. Pilotage compulsory.

Pilotage; District: From the outwardmost buoy on the bar of Carnarvon, into and out of Carnarvon Harbor, and in the Menai Strait, to Port Dinorwic, or Moel-y-Don, and *vice versa*. Rates:

Distances.	7 feet and under.	8 feet.	9 feet.	10 feet.	11 feet.	12 feet.	13 feet.	14 feet.	15 feet.	16 feet.	17 feet.	18 feet.	19 feet.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.
From the outwardmost buoy on the bar to the anchorage off the town or the lawful quays, and *vice versa*	10 0	11 0	12 0	14 0	16 0	17 0	25 0	35 0	45 0	55 0	70 0	90 0	120 0
From the anchorage off the town or the lawful quays to Port Dinorwic, or Moel-y-Don, and *vice versa*	4 0	4 0	5 0	6 0	7 0	7 6	9 0	12 6	15 0	17 6	20 0	25 0	30 0
From the anchorage off the town or the lawful quays (no Swellies pilot offering) to Cadnant, through the Swellies, and *vice versa*	6 0	8 0	9 0	10 0	11 0	12 0	13 0	14 0	15 0	16 0	17 0	18 0	.....
From Port Dinorwic, or Moel-y-Don (no Swellies pilot offering) to Cadnant, through the Swellies, and *vice versa*	4 0	6 0	6 9	7 6	8 3	9 0	9 9	10 6	11 3	12 0	12 9	13 6	.....

For half a foot exceeding the above drafts of water the medium between the rates stated in the above table. For intermediate distances a proportionate rate. Pilot-boarding vessels outside or to seaward of the outwardmost buoy on the bar, are entitled to a further sum of 1*s.* 6*d.* per mile for the extra distance from sea to said buoys

Channel Islands. Pilotage not compulsory. *Alderney.* Pilotage 7*d* per ton.

Chester, Cheshire. Pilotage compulsory.

Pilotage: Foreign pilotage rates (inward) per foot:

From—	To— Wild Roads.		Mostyn.		East of Mostyn to Connah's Quay.		East of Connah's Quay.	
	Wn.	Sm.	Wn.	Sm.	Wn.	Sm.	Wn.	Sm.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
The Great Ormshead	7 0	6 0	8 0	7 0	8 6	7 6	9 0	8 0
Inside of NW. Patch Buoy or Bar Buoy, North Deep or Fairway Buoy in Hilbre Swash	6 0	5 0	7 0	6 0	7 6	6 6	8 0	7 0
Inside Earwig or South Hoyle Buoy, or Hilbre Island	5 0	4 0	6 0	5 0	6 6	5 0	7 0	6 0
Wild Roads	.....	.....	3 0	2 0	5 6	5 0	6 6	5 6

Foreign pilotage rates (outward) per foot:

From—	To— Wild Roads.		Mostyn.		Wn.	Sm.	Sea.	
	Wn.	Sm.	Wn.	Sm.			Wn.	Sm.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
East of Connah's Quay	5 0	4 6	6 0	5 0	.....	.....	7 0	6 0
Connah's Quay to East of Mostyn	4 6	4 0	5 6	4 6	.....	.....	6 0	5 0
Mostyn	3 0	2 0	.....	.....	.....	.....	6 0	5 0
Wild Roads	.....	.....	3 0	2 0	.....	.....	5 6	4 6

7s. 6d. per tide shifting; *7s. 6d.* per day if detained on board within the district; *10s. 6d.* per day if taken outside district, and traveling expenses.

Coasting pilotage rates (inward) per foot:

From—	To— Wild Roads.	Mostyn.	East of Mostyn to Connah's Quay.	East of Connah's Quay to Chester.
	s. d.	*s. d.*	*s. d.*	*s. d.*
Outside the NW. Patch Buoy, or Bar Buoy, North Deep or Fairway Buoy in Hilbre Swash, vessels 60 tons net register and under	1 3	1 6	2 0	2 3
Ditto, vessels from 60 to 80 tons net register	1 6	1 9	2 3	2 6
Wild roads:				
Vessels 60 tons net register and under	.....	1 3	1 6	1 9
Vessels from 60 to 80 tons net register	.....	1 6	1 9	2 0

And as to vessels over 80 tons net register, 2 per foot extra for every additional 20 tons net register on each rate respectively.

Coasting pilotage rates (outward) per foot.

From—	To— Wild Roads.	Mostyn.	Connah's Quay.	Sea.
	s. d.	*s. d.*	*s. d.*	*s. d.*
Chester, or any place east of Mostyn, for vessels 60 tons net register and under	1 6	1 6	1 9	2 3
Ditto, from 60 to 80 tons net register	1 9	1 9	1 3	2 6
Mostyn:				
Vessels 60 tons net register and under	1 3	.....	1 6	1 9
Vessels from 60 to 80 tons net register	1 6	.....	1 9	2 0
Wild Roads:				
Vessels 60 tons net register and under	.....	.....	.....	1 9
Vessels from 60 to 80 tons net register	.....	.....	.....	2 0

And as to vessels over 80 tons net register, *2d.* per foot extra for every additional 20 tons net register on each rate respectively; *5s.* per tide shifting; *5s.* per day if detained on board within the district; *7s. 6d.* per day if taken outside district, and traveling expenses.

NOTE.—Winter season commences October 1 and ends March 31. Coasters pay one-half the above rates. No vessel to pay for less than 8 feet draft, nor to pay for odd inches under or over half a foot. Also 5*s.* per day for each day the pilot is kept on board.

Colchester, Essex. Pilotage not compulsory.

Pilotage; district: From a line drawn from the Naze Tower to the buoy of the Gunfleet, up the Colne River to Colchester, and *vice versa*. Rates (inward and outward): East buoy of Gunfleet to Eastness, 2*s.* 6*d.* per foot; Eastness to Pyefleet, 1*s.* 3*d.*; Pyefleet to Wivenhoe 1*s.* 6*d.*; Wivenhoe to the Hythe, Colchester, 1*s.* 6*d.* A pilot taken on board, or discharged from, a vessel to the eastward of the Priory Spit buoy is entitled to £1 in addition to the above rates. London pilots are to be paid from Orfordness to Eastness, 6*s.* per foot.

Coleraine, Londonderry. On the Bann. Pilotage compulsory.

Pilotage; district: The river Bann. From the quays at town of Coleraine to an imaginary boundary line at sea running through a point northward of the mouth of the river, 1 mile from end of east pier at its mouth. Rates: Steamers, 1*s.* 6*d.* per foot inwards, and 9*d.* per foot outwards. No printed return exists, and the harbor commissioners exempt from pilotage rates all vessels towed into the river by agreement with the owner of a steam tug.

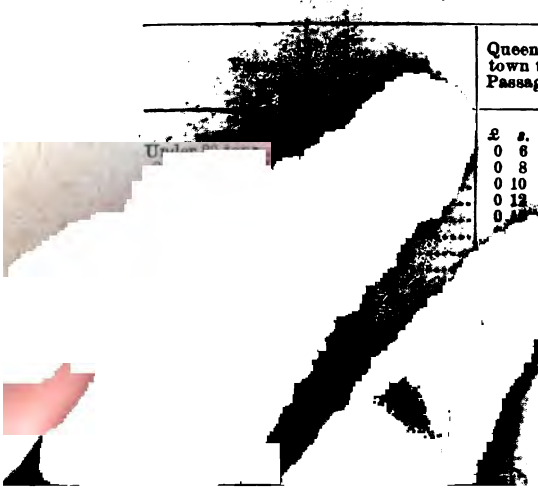
Towage: Inwards with cargo and outlight, 6*d.* per registered ton; outwards, if light, 3*d.* per ton; if with cargo extra. No pilot is required when a tug employed.

Cork, Munster. On the Lee, 15 miles from the sea. Pilotage not compulsory.

Pilotage; district: The river, harbor, and port of Cork, the southern or seaward boundary being a straight line extending from Poor Head on the east to Cork Head on the west. Rates for all vessels, inwards or outwards:

Vessels or lighters.	To Queenstown inwards.	From Queenstown outwards.	To passage inwards.	From passage outwards.	To Cork inwards.	From Cork outwards.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
Under 80 tons	0 11 3	0 3 9	0 15 0	0 5 0	1 5 4	0 8 5
80 and under 120	1 1 1	0 7 1	1 3 5	0 7 10	1 13 9	0 11 3
120 " 160	1 8 2	0 9 4	1 17 6	0 12 6	2 3 2	0 16 8
160 " 220	1 17 6	0 12 6	2 6 10	0 15 7	2 15 0	0 18 9
220 " 300	2 16 3	0 18 9	3 11 3	1 5 0	3 16 3	1 11 3
300 " 400	3 5 8	1 1 10	4 3 2	1 8 1	4 15 8	1 14 4
400 " 500	3 15 0	1 5 0	4 13 9	1 11 3	5 10 0	1 17 6
500 " 600	4 2 6	1 10 0	5 1 3	1 16 3	6 0 0	2 2 6
600 " 700	4 10 0	1 15 0	5 8 9	2 1 3	6 7 6	2 7 6
700 " 800	4 17 6	2 0 0	5 16 3	2 6 3	6 15 0	2 12 6
800 " 900	5 5 0	2 5 0	6 3 9	2 11 3	7 2 6	2 17 6
900 " 1,000	5 12 6	2 10 0	6 11 3	2 16 3	7 10 0	3 2 6

And inwards—for all vessels and lighters 6*s.* to be added for every 100 tons or surplus fraction (not being less than 50 tons), of every 100 tons over 1,000 tons up to and including 2,000 tons surplus, and for every 100 tons, or like fraction of 100 tons, over 2,000 tons surplus, as far as a vessel of 5,000 tons inclusive, 3*s.*; and outwards—for all vessels and lighters 4*s.* to be added for every 100 tons or surplus fraction (not being less than 50 tons), of every 100 tons over 1,000 tons, up to and including 4,000 tons surplus. The excess over 5,000 tons is not charged with pilotage rate, either inwards or outwards. For every vessel or lighter, British and foreign, using a pilot, only within the limits in this table, coasters and colliers included:



Queenstown to Passage.	Passage to Queenstown.	Queenstown to Cork.	Cork to Queenstown.	Passage to Cork.	Cork to Passage.
£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
0 6 0	0 4 0	0 9 0	0 6 0	0 6 0	0 4 0
0 8 0	0 5 8	0 12 6	0 8 2	0 8 0	0 6 4
0 10 0	0 6 8	0 15 0	0 10 0	0 10 0	0 6 3
0 12 6	0 8 4	0 17 6	0 12 0	0 12 6	0 8 4
0 [illegible]	0 10 0	1 0 0	0 13 4	0 17 6	0 11 8
[illegible]	0 12 0	1 10 0	1 0 0	1 0 0	0 13 4
[illegible]	13 4	1 15 0	1 3 4	1 5 0	0 16 8
[illegible]	15 0	1 17 6	1 5 0	1 7 6	0 18 4
[illegible]	16 8	2 0 0	1 6 8	1 10 0	1 0 0
[illegible]	18 4	2 2 6	1 8 4	1 12 6	1 1 8
1 0 0	2 5 0	1 10 0	1 15 0	1 3 4	
1 1 8	2 7 6	1 11 8	1 17 6	1 5 0	

s. 6*d.* for every 100 tons or surplus fraction (not being less than 50 tons), of 00 tons over 1,000 tons, up to and including 4,000 tons surplus above 1,000 tons s a vessel of 5,000 tons inclusive. The excess over 5,000 tons is not charged lotage rate. The rates to and from Monkstown, and to and from the East are the same as those to Passage; and the rates to and from Ballinacurra are ie as those to Cork. Vessels or lighters proceeding to Blackrock, or higher up, same rates as to Cork, or lower down than Blackrock pay the same rates as age. Pilot, in case of extra detention in the vessel or lighter, north of the n limits of the port, to be paid 5*s.* per day in addition to his pilotage. Any acing a vessel or lighter in any berth to which a harbor master objects shall her without charge. No pilot is allowed to make terms; 5*s.* in addition to e allowed for mooring.

, Isle of Wight. Pilotage not compulsory. (*See* Portsmouth.)

outh, Devon. Pilotage not compulsory.

age; District: From Bob's Nose to the Start and *vice versa*. Rates: For ships l without the Run of the Mewstone East, or the Blackstone West, to Dart- inwards), 10 feet draft and under, 2*s.* 6*d.*; 10 to 12 feet, 3*s.*; 12 to 14 feet, 3*s.* 6*d.*; feet, 4*s.*; 16 feet and upwards, 5*s.* per foot, (outwards) two-thirds of these teamships putting into Dartmouth Harbor for coal only pay for pilotage in , the rate above provided for inwards only. If boarded within the above- line they pay one-half these rates; if boarded within the Castle they pay one- these rates, subject to the circumstances of weather, etc. Ships boarded ; the Run of Bob's Nose, or Berry Head, to Brixham or Torquay (inwards), raft and under, 1*s.* 6*d.*; 10 to 12 feet, 2*s.*; 12 to 14 feet, 2*s.* 6*d.*; 14 to 16 feet, feet and upwards, 3*s.* 6*d.* per foot, (outwards) two-thirds of these rates; if l within the above-named line one-quarter part less; if boarded half a mile m the outer piers, vessels of all sizes pay 1*s.* per foot draft; the pilotage to r is not compulsory, but should the master of any vessel choose to employ a e charge is two-thirds less than for Brixham and Torquay; vessels bound to outh with a Teignmouth pilot on board, and piloted from Tor Bay to Bob's a Dartmouth pilot, pay 1*d.* per foot. Castle Line of steamers call fortnightly s and passengers. There are also two lines of steamers to West Indies and merica, and a German line to the Falkland Islands.

, Kent. Pilotage compulsory. (*See* London district.)

eda, Louth. On the river Boyne, 4 miles from the sea. Pilotage not com-

age; District: From between Clogher Head and the Skerries to quays of la, and from quays to bay. Rates:

Registered tonnage.	No. 1. Vessels not having British registers arriving from or sailing on a foreign voyage.	No. 2. Vessels with British registers arriving from or sailing on a foreign voyage.	No. 3. Vessels not steamers trading to or from a port in the United Kingdom.
	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
nder 40	0 12 0	0 9 0	0 6 0
50	0 15 0	0 11 3	0 7 6
60	0 18 0	0 13 6	0 9 0
70	1 1 0	0 15 9	0 10 6
80	1 4 0	0 18 0	0 12 0
90	1 7 0	1 0 3	0 13 6
100	1 10 0	1 2 6	0 15 0
110	1 13 0	1 4 9	0 16 6
120	1 16 0	1 7 0	0 18 0
130	1 19 0	1 9 3	0 19 6
140	2 2 0	1 11 6	1 1 0
150	2 5 0	1 13 9	1 2 6
160	2 8 0	1 16 0	1 4 0
175	2 11 0	1 18 3	1 5 6
200	2 14 0	2 0 6	1 7 0
225	2 17 0	2 2 9	1 8 6
250	3 0 0	2 5 0	1 10 0
275	3 3 0	2 7 3	1 11 6
300	3 6 0	2 9 6	1 13 0
325	3 9 0	2 11 9	1 14 6
350	3 12 0	2 14 0	1 16 0
375	3 15 0	2 16 3	1 17 6
400	3 18 0	2 18 6	1 19 0
pwards	4 1 0	3 0 9	2 0 6

Dublin, Dublin. On the river Liffey, 7 miles from the Irish Sea. Pilotage compulsory.

Pilotage; district: On the north an imaginary straight line drawn from a p between Balbriggan and Skerries, and through Rock-a-bill light-house to a poin sea 3 leagues distant from the nearest land on that part of the Irish coast. On south an imaginary straight line drawn from a point in the same latitude as the Sc Arklow light-ship and through the light-ship on the south end of the Arklow Ba and thence to a point at sea 3 leagues distant from the nearest land on that par the Irish coast. On the east by an imaginary line drawn from the seaward extren of the northern boundary line of a point at sea 3 leagues eastward of the Nos Howth, thence to a point at sea 3 leagues eastward of Wicklow Head, and the until it joins the seaward extremity of the southern boundary line. Division Dublin pilotage district.—No. 1. Inner pilotage division: The inner pilotage d sion comprises the area which would be inclosed by straight lines drawn from E Head to the buoy on the south end of the Kish Bank, and from thence to the I light-ship outside the Kish Bank, and from thence on to Ireland's Eye, excep much of that area as is comprised in the bay pilotage division. No. 2. Bay pilot division: The bay pilotage division comprises the whole area of Dublin Bay side the bar, and is formed by an imaginary straight line drawn from the north h land of Dublin Bay, called Howth Bailey, to the south headland of Dublin l called the Land's End of Dalkey. No. 3. Outer pilotage division: The outer p age division comprises the area which would be inclosed on the north by the no ern boundary line of the Dublin pilotage district, on the east by the eastern bou ary line, on the south by the southern boundary line, and on the west by the l forming the boundary to seaward of the inner pilotage division.

Rates; inner pilotage district: British or foreign vessels from or to foreign p to the quays or docks of Dublin, 3*s.* per foot; into Kingstown, Dalkey Bullock Sutton, 2*s.* per foot; to the quays or docks of Dublin from Kingstown, Dalkey lock, or Sutton, 2*s.* 6*d.* per foot; from the bar to the quays or docks of Dublin per foot. For piloting (not in ballast) outwards, to any part of this division, f the quays or docks of Dublin to Poolbeg, 1*s.* per foot; from Poolbeg over the bar per foot; from Kingstown, Dalkey Bullock, or Sutton, 2*s.* per foot. Colliers coasters, to the quays or docks of Dublin, 1*s.* 6*d.* per foot; into Kingstown, Da Bullock, or Sutton, 1*s.* per foot; to the quays or docks of Dublin from Kingst Dalkey Bullock, or Sutton, 1*s.* 6*d.* per foot; from the bar to the quays or dock Dublin, 6*d.* per foot. For piloting (not in ballast) outwards, or to any other pa this division, from the quays or docks of Dublin to Poolbeg, 1*s.* per foot; from P beg over the bar 1*s.* per foot; from Kingstown, Dalkey Bullock, or Sutton, 1*s.* foot. British or foreign vessels from or to foreign ports, and colliers or coaster ballast, from the quays or docks of Dublin to Poolbeg, 1*s.* per foot; from Poo over the bar, 1*s.* per foot. Bay pilotage division: British or foreign vessels or to foreign ports, to the quays or docks of Dublin, 2*s.* 6*d.* per foot; all other cha identical with the rates of pilotage of the inner pilotage division. Outer pilo division: British or foreign vessels from or to foreign ports to the quays or d of Dublin, 4*s.* per foot; into Kingstown, Dalkey Bullock, or Sutton, 3*s.* per f from the quays or docks of Dublin, 2*s.* per foot; from Kingstown, Dalkey Bullock Sutton, 2*s.* per foot. Colliers or coasters, to the quays or docks of Dublin, 2*s.* 6 foot; into Kingstown, Dalkey Bullock, or Sutton, 2*s.* per foot. The rates in the eral divisions are charged for every foot of water the vessel draws, and in pro tion for every half foot. A fractional part of a foot less than half a foot is in cases reckoned half a foot.

Dumfries, Dumfriesshire. Pilotage not compulsory, district not defined. Rat or from sea, 3*s.* per foot.

Dundalk, on Castletown River, county Louth, Ireland. Pilotage compulsor sailing vessels, not compulsory for steamers.

otage; district: For inward pilots. From an imaginary line drawn straight seaward end of Dunany Point to seaward end of Cooley Point, to Dundalk s. For outward pilots. Quay to bar or light-house. Rates:

Registered tonnage.	No. 1. Vessels with British registers arriving from or sailing on a foreign voyage.			No. 2. Sailing vessels trading to or from a port in the United Kingdom.		
	£	s.	d.	£	s.	d.
nd under 40 tons	0	9	0	0	6	0
" 50 "	0	11	3	0	7	6
" 60 "	0	13	6	0	7	6
" 70 "	0	15	9	0	9	0
" 80 "	0	18	0	0	12	0
" 90 "	1	0	3	0	13	6
" 100 "	1	2	6	0	15	0
" 110 "	1	4	9	0	16	6
" 120 "	1	7	0	0	18	0
" 130 "	1	9	3	0	19	6
" 140 "	1	11	6	1	1	0
" 150 "	1	13	9	1	2	6
" 160 "	1	16	0	1	4	0
" 175 "	1	18	3	1	5	6
" 200 "	2	0	6	1	7	0
" 225 "	2	2	9	1	8	6
" 250 "	2	5	0	1	10	0
" 275 "	2	7	3	1	11	6
" 300 "	2	9	6	1	13	0
" 325 "	2	11	9	1	14	6
" 350 "	2	14	0	1	16	0
" 375 "	2	16	3	1	17	6
" 400 "	2	18	6	1	19	0
and upwards	3	0	9	2	0	6

Ballast pilotage on coasting vessels outwards:

	£	s.	d.
and under 60 tons		0	5	0
" 80 "		0	7	6
" 100 "		0	10	0
" 120 "		0	12	6
" 130 "		0	16	6
" 140 "		0	17	6
" 150 "		0	19	0
" 160 "		1	1	0
" 170 "		1	2	0
" 180 "		1	3	0
" 190 "		1	4	0
" 200 "		1	5	0
" 250 "		1	6	0
" 300 "		1	7	0
and upwards		1	10	0

Vessels arriving with a cargo from a foreign voyage and leaving in ballast pay two-irds of inward pilotage.

Dundee, Forfar. On the Firth of Tay, 10 miles from the North Sea. Pilotage mpulsory.

Pilotage; district: The limits within which vessels can be piloted by the pilots ensed by the trustees, are from 6 miles outside the Fairway buoy at the entrance the river Tay, up the river as far as Invergowrie on the north and Balmerinoch the south side of the Tay. Rates: Foreign.—I. Inwards: for vessels from foreign arded not more than 3 miles outward of the Fairway buoy, or at any point between at distance and the said buoy, and from thence to and including any point or place thin the docks of Dundee or Broughty Ferry and Tayport Harbors, 3*s*. $10\frac{2}{10}$*d*. per ot, according to the draft of water. Outwards: for vessels to foreign, boarded at y point or place within the docks of Dundee or Broughty Ferry or Tayport Harbors, d discharged at the buoy of Tay, 3*s*. $19\frac{8}{10}$*d*. per foot. II. Inwards: for vessels m foreign, boarded as above, and discharged in the roads, 2*s*. $5\frac{7}{10}$*d*. per foot. Outrds: for vessels to foreign, boarded in the roads and discharged at the buoy of Tay, $5\frac{7}{10}$*d*. per foot. III. Inwards: for vessels from foreign, boarded above Broughty stle, to and including the docks of Dundee or Broughty Ferry and Tayport Harrs, 1*s*. $4\frac{1}{2}$*d*. per foot. Outwards: for vessels to foreign, boarded in the docks or oughty Ferry and Tayport Harbors, and discharged in the roads, 1*s*. $4\frac{1}{2}$*d*. per foot. sting: IV. Inwards and outwards: for vessels coasting, boarded and discharged

as in No. I, 2*s.* 9*d.* per foot. V. Inwards and outwards: for vessels coasting, boarded and discharged as in No. II, 2*s.* $2\frac{4}{10}$ *d.* per foot. VI. Inwards and outwards: for vessels coasting, boarded and discharged as in No. III, 1*s.* $1\frac{3}{10}$*d.* per foot. Vessels boarded at Tayport and discharged in the docks at Dundee, or boarded in the docks at Dundee, and discharged at Tayport, are charged 1*s.* $5\frac{8}{10}$*d.* per foot. During the months of November, December, January, February, and March in each year, the rates are as follows: I, 4*s.* $5\frac{63}{1000}$*d.*; II, 3*s.* $1\frac{135}{1000}$*d.*; III, 1*s.* 4½*d.*; IV, 3*s.* $3\frac{8}{10}$*d.*; V, 2*s.* 9*d.*; VI, 1*s.* $1\frac{3}{10}$*d.*

In addition to the above rates ½ *d.* per ton is chargeable on the excess tonnage of all vessels above 500 tons register. In the event of vessels having to stop in Carolina roads for want of water in the docks at Dundee, or otherwise, the pilot shall be entitled to leave the vessel; but if the master of the vessel desire to retain him on board till she can enter the harbor, he shall intimate such desire to the pilotmaster, who will decide whether that can be done. In the former case full pilotage rates shall be exigible, but another pilot will, when required, be appointed to bring the vessel into the harbor, without any charge beyond the ordinary pilotage rates; in the latter, besides these rates, 10*s.* shall be payable for each day or part of a day any pilot shall be so detained, in name of river fees; and in the case of outward-bound vessels requiring similar service, the charge for river fees shall be the same. All vessels inward bound, boarded beyond the distance of 3 miles from the bouy of Tay, and not exceeding 6 miles, to pay 10*s.* 6*d.* additional for distance money; and vessels boarded 6 miles beyond the said buoy of Tay to pay 15*s.* of distance money. In case of dispute the distance shall be ascertained by the bearings of the different headlands when the vessel was boarded.

Exeter, Devonshire. On the Exe. Nine miles from the sea. Pilotage not compulsory.

Pilotage; district: From Lyme to Bob's Nose, and *vice versa*.

Rates: Coasters: For ships in and over Exmouth Bar, to the moorings in the Bight at Exmouth, and out again over the bar, per foot draft. Inwards:

	s.	d.
Not exceeding 60 registered tons	1	9
Exceeding 60 and not exceeding 80 tons	2	0
80 " 90 "	2	3
90 " 100 "	2	9
100 " 125 "	3	3
125 " 150 "	3	9
Exceeding 150 and not exceeding 175 tons	4	3
175 " 200 "	4	9
200 " 250 "	6	0
250 " 300 "	7	0
300 " 400 "	7	9

Ships from foreign parts. For ships in and over Exmouth Bar, to the moorings in the Bight at Exmouth, and out again over the bar, per foot draft. Inwards:

	s.	d.
Not exceeding 80 registered tons	3	0
Exceeding 80 and not exceeding 100 tons	3	9
100 " 150 "	5	0
150 " 200 "	5	6
Exceeding 200 and not exceeding 250 tons	6	3
250 " 300 "	7	9
300 " 400 "	9	0
400	9	9

And 1*s.* per foot for every 100 tons additional. Outwards, one-half these rates. A deduction of one-third of the inward pilotage to be made on vessels not boarded outside the Fairway buoy. All ships carried up from the bight at Exmouth to the Sands, 3*s.* 6*d.*; back, 3*s.* 6*d.* All ships under 100 tons carried up to Topsham Quay, 13*s.*; back, 13*s.* All ships under 100 tons carried up to Turf, 9*s.*; back, 9*s.* All ships upwards of 100 tons carried up to Topsham Quay, ton, 1½*d.*; back, 1½*d.* All ships upwards of 100 tons carried up to Turf, ton, 1½*d.*; back, 1½*d.*

Falmouth, Cornwall. Pilotage compulsory.

Pilotage; district: From the Dodman to the Lizard, and *vice versa*. Rates:

	8 feet and under.	8 to 10 feet.	11 feet.	12 feet.	13 feet.	14 feet.	15 feet.	16 feet.	17 feet.	18 feet.	19 feet.	20 feet.	21 feet.	22 feet.	23 feet.
	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s. d.	s.	s.	s.	s.	s.
A	30 0	35 0	40 0	45 0	50 0	55 0	60 0	70 0	80 0	90 0	100	120	130	140	150
B	20 0	21 0	25 0	30 0	33 0	36 0	40 0	46 0	53 0	60 0	66	80	88	93	100
C	10 6	13 0	15 6	18 6	20 0	22 0	24 0	26 6	29 6	33 0	37	41	46	52½	59

A. From sea to within an imaginary line drawn from the light-house on St. Anthony's Point, to the Block House on Pendennis Point.

B. From inside an imaginary line drawn from the Manacles to the Dodman, within an imaginary line drawn from the light-house on St. Anthony's Point, to the Block House on Pendennis Point.

C. From inside an imaginary line drawn from the light-house on St. Anthony's Point, to the Block House on Pendennis Point, to Carrick Roads, Falmouth Inner Harbor, St. Mawes Harbor, and St. Just Pool.

A vessel brought to an anchor, or taken from her anchorage by a pilot, outside A, or employing a pilot within the district, and not anchoring or coming within A, pays inward pilotage as above. Outward pilotage, 2*s.* 6*d.* per foot draft. From Carrick Roads, and *vice versa*, to Falmouth Inner Harbor, St. Mawes Harbor, and St. Just Pool, 1*s.* 6*d.* per foot draft. From Carrick Roads, and *vice versa*, to Restronguet, 2*s.* per foot draft. From Carrick Roads, and *vice versa*, to Malpas, 2*s.* 6*d.* per foot draft. For vessels exceeding 23 feet an increase for each foot or part of a foot, in the same proportion as between 22 and 23 feet. Pilots kept on board vessels under way outside the harbor are entitled to the following scale of pay, viz:

				£	*s.*	*d.*
Not exceeding 6 hours				0	10	6
6 and not exceeding 24 hours				1	1	0
24	"	30	"	1	11	6
30	"	48	"	2	2	0
48	"	54	"	2	12	6
54	"	72	"	3	3	0

And so on in proportion. Pilots remaining on board vessels at anchor within the harbor at the request of the master, or detained on board of vessels performing quarantine, receive the same rate of pay for such detention. No allowance for a pilot going on board a ship in the harbor to take her out, except in extremely bad weather, or when ships are on shore, or making signal of distress, in which cases a reasonable compensation is to be made.

Faversham, Kent. Pilotage not compulsory.

Fleetwood, Lancashire. On the river Wyre. Pilotage not compulsory.

Pilotage; district: From sea (that is, Morecambe Bay Light-ship) into and out of the harbor, and along the coast from Formby Point to Haverigg Point of Dudden. Rates on vessels employed in the oversea trade per foot draft:

Limits.	Under 200 tons register.	200 tons and under 600 tons register.	600 tons and under 1,000 tons register.	1,000 tons register and upwards.
	s. *d.*	*s.* *d.*	*s.* *d.*	*s.* *d.*
From within lines from Morecambe Bay Light-ship to Formby Point and Haverigg Point respectively, to Fleetwood, and *vice versa*	6 0	8 0	9 0	10 0
From within a line with Black Comb, bearing NNE., to Fleetwood, and *vice versa*	4 0	5 0	6 0	7 0
From Danger Patch Buoy, or 1 mile outside the outer light-house, to Fleetwood, and *vice versa*	3 0	3 6	4 0	5 0
From the outer light-house, or within 1 mile outside thereof, to Fleetwood, and *vice versa*	2 6	2 6	3 0	4 0
From inside the outer light-house to Fleetwood, and *vice versa*	1 6	2 0	2 6	3 0

On vessels employed in the coasting trade one-half of these rates. Additional rate for intermediate portions of a foot draft, as follows, viz: For 3 inches and under, no addition; for more than 3 inches and under 9 inches, the medium between the two rates; for 9 inches and upwards, the rate for the next foot. For transporting ships from one berth to another within the harbor, 10*s.* 6*d.* If a master retain or employ a pilot whilst at anchor, the lay days to be 7*s.* 6*d.* per day. All coasting steam vessels making more than one voyage per week pay half these rates.

Folkestone, Kent. (*See* London District.)

Fowey, Cornwall. About midway between Falmouth and Plymouth. Pilotage not compulsory.

Pilotage; district: From Looe, inclusive, to the Dodman. Rates: On vessels boarded within the Land off Looe, or the Dodman (which must be known by the Western land, called the Gray, being open of the Dodman), into the harbor of Fowey, Mevagissey Pier, Pentuan Basin, Charlestown Basin, or Looe: Vessels not exceeding 100 tons per register 2*s.* per foot, and 6*d.* for every additional 50 tons. No pilotage to be charged for less than half a foot. On vessels boarded without the limits above defined 1*s.* per foot, in addition to the foregoing rates, is chargeable. The pilotage outwards, from any of the said harbors to sea, is two-thirds of the aforegoing, according to the vessel's then draft of water. All vessels which anchor on their arrival either in Mevagissey Bay, or the Sands of Fowey, pay one-half of these rates. All vessels, inwards, anchoring in Fowey Harbor, and afterwards removed to Lew Roads, and all vessels outwards removed from Low Roads and anchored in Fowey Harbor, pay 1*s.* per foot extra, if drawing 14 feet of water, and 9*d.* per foot if drawing less than 14 feet. Vessels removed from one of the above-named harbors to another pay the same pilotage as if boarded within the headlands coming in from sea. A pilot taken on board at sea is entitled to the following additional rate of pay: If at 3 leagues

without a line drawn from the Looe to the Dodman, £3 3*s*. If at 6 leagues without a line drawn from the Looe to the Dodman, £4 4*s*. If at 10 leagues without a line drawn from the Looe to the Dodman, £6 6*s*., and proportionately for intermediate distances. All coasting vessels, except limestone barges, piloted into the harbor of Looe pay 1*d*. per ton, new registry, and the same outwards. All limestone barges piloted into the harbor pay 2*s*. 6*d*. each and the same outwards. Charge for use of boats and warps, 5*s*. per vessel.

Galway, County Galway. On the Corrib. Pilotage not compulsory.

Pilotage; district: The port of Galway is divided into two pilotage districts, one called the Outer and the other the Inner. The outer district extends from a line from Gulin Head to the western point of the Arran Islands, and from thence to Hag's Head, and to the roadstead of Galway. The inner district extends from the roadstead to the docks and quays. Rates: From a line drawn between Black Head and Spiddal to the roadstead, and *vice versa*: 50 tons and under 75 tons, 12*s*. 6*d*.. and 2*s*. 6*d*. additional for every 25 tons. Half the above rate payable from the roadstead to the docks, and *vice versa*. A vessel taking a pilot at or outside Arran to the Black Head Line, or from Black Head Line to Arran Islands, by either sound, pays 2*s*. 6*d*. for every 25 tons register, in addition to these rates.

Glasgow, Lanark. On the Clyde. Pilotage compulsory.

Pilotage; district: Between Glasgow and Greenock. The pilots licensed by the board consist of two classes, viz, river pilots licensed to pilot vessels between Glasgow and Greenock, and deep-sea pilots licensed to pilot vessels between Greenock and the island of Little Cumbrae, including vessels proceeding outwards from Port Glasgow or inwards to Port Glasgow. In the case of steamers making trial trips to adjust their compasses, or for other such casual purposes, the owners, or persons in charge of such steamers, are entitled to take either river pilots, or, when going from Port Glasgow or Greenock, deep-sea pilots, in their option. Rates: From Greenock, or off Greenock, or the Tail of the Bank, to Glasgow; or from Glasgow to Greenock, or off Greenock, or the Tail of the Bank, including the unmooring of the ship, for all vessels under 10 feet draft, 1*s*. 6*d*.; vessels with 10 feet draft and under 12 feet, 2*s*.; vessels with 12 feet draft and not exceeding 15 feet, 2*s*. 6*d*.; all vessels exceeding 15 feet draft, 3*s*. per foot. Vessels to and from Bowling Bay or Dumbarton are charged at two-thirds of these rates; and vessels from Renfrew or Dalmuir to Greenock or Port Glasgow, or from these two ports to Dalmuir or Renfrew, are charged the same rates as from Glasgow. Odd inches are charged in proportion. From Glasgow to Renfrew, and *vice versa*. 5*s*. From any place between the Cumbrae and Cloch Lights to Greenock or Port Glasgow, including mooring the ship or waiting the tide, 1½*d*. per ton. From a line drawn between the Cloch Light and Dunoon Pier to Port Glasgow, or to any intermediate place, ½*d*. per ton; the same for like distances outwards. Fractional tonnage charged in proportion. From Greenock, or off Greenock, to Garelochhead, and *vice versa*, including detention in swinging the vessel, ½*d*. per ton, but no pilot is obliged to pilot a vessel to the Garelochhead and back for a less sum than 15*s*. each way. For every day the pilot is kept on board after the compasses are adjusted he is entitled to charge 7*s*. 6*d*. For piloting vessels up or down the Leven, to or from Dumbarton, the pilots are not entitled to charge more than 4*s*. in addition to the rate for piloting such vessels on the Clyde, and 4*s*. for each additional tide he may be detained after the first. Any pilot, whether deep-sea or river, who may be detained at the request of the owner or person in charge of the vessel, after his duties as pilot have been completed, in addition to receiving his provisions, is to be paid 7*s*. 6*d*. per day, and so in proportion for any lesser period. No differential rates are recoverable in respect of foreign vessels. Shifting vessels in harbor, under 500 tons, 7*s*. 6*d*.; 500 tons and upwards, 10*s*. All vessels to and from Renfrew, Prisley Water, and Dalmuir are charged the same as a shift, but if required to go more than once for the same vessel, the pilot to be paid for expenses every time after the first 2*s*. 6*d*.; attending launch, 15*s*.; and per tide detention, 5*s*. Bowling and Dumbarton the same rates as to and from Greenock. Leven pilotage: All vessels under 100 tons register, 5*s*.; all vessels over 100 tons and under 500, 7*s*. 6*d*.; all vessels of 500 tons and upwards, 10*s*.; and per tide detention, 5*s*. Steam vessels, when in the river, to remain as they are. All vessels towed to be allowed one-fifth of the full rates. Trial trips: All vessels from 500 to 1,000 tons register, per tons registered, 1½*d*., and for every additional 100 tons 5*s*., and for detention over twenty-four hours, per day, 7*s*. 6*d*. Gareloch rate to remain as it is, but when a pilot is kept on board after compasses are adjusted he is entitled to 7*s*. 6*d*. per day. Vessels under 500 tons register going on a trial trip, £3. Detention money is charged only after the actual commencement of the service for which the pilot is engaged.

Gloucester. Pilotage not compulsory.

Pilotage; district: The Bristol Channel east of Lundy Island, including the river Severn to the city of Gloucester, and the river Wye to Chepstow Bridge. Rates:

Limits.	Under 100 tons.	100 and under 200.	200 and under 300.	300 and under 400.	400 and under 500.	500 and under 600.	600 and under 800.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
From Lundy to the Holmes or Cardiff Roads, and *vice versa*	1 10 0	2 0 0	2 7 6	2 15 0	3 5 0	3 15 0	4 5 0
From Lundy to Kingroad, and *vice versa*	2 0 0	2 10 0	3 0 0	3 10 0	4 2 6	4 15 0	5 7 6
From Lundy to Sharpness, and *vice versa*	4 0 0	5 0 0	6 0 0	7 0 0	8 5 0	9 10 0	10 15 0
From Nash Point or Minehead to the Holmes or Cardiff Roads, and *vice versa*	1 0 0	1 5 0	1 10 0	1 15 0	2 2 6	2 10 0	2 17 0
From Nash Point or Minehead to Kingroad, and *vice versa*	1 10 0	1 15 0	2 2 6	2 10 0	3 0 0	3 10 0	4 0 0
From Nash Point or Minehead to Sharpness, and *vice versa*	3 10 0	4 5 0	5 2 6	6 0 0	7 2 6	8 5 0	9 7 6
From the Holmes or Cardiff Roads to Kingroad, and *vice versa*	0 10 0	0 12 0	0 15 0	0 17 6	1 2 6	1 7 6	1 12 6
From the Holmes or Cardiff Roads to Sharpness, and *vice versa*	2 10 0	3 2 6	3 15 0	4 7 6	5 5 0	6 2 6	7 0 0
Kingroad to Sharpness, 80 and under 100	2 0 0	2 10 0	3 0 0	3 10 0	4 2 6	4 15 0	5 7 9

	800 and under 1,000.	1,000 and under 1,200.	1,200 and under 1,400.	1,400 and under 1,600.	1,600 and under 1,800.	1,800 and above.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
From Lundy to the Holmes or Cardiff Roads, and *vice versa*	5 0 0	5 15 0	6 10 0	7 5 0	8 0 0	8 15 0
From Lundy to Kingroad, and *vice versa*	6 5 0	7 5 0	8 5 0	9 5 0	10 5 0	11 5 0
From Lundy to Sharpness, and *vice versa*	12 10 0	14 10 0	16 10 0	18 10 0	20 10 0	22 10 0
From Nash Point or Minehead to the Holmes or Cardiff Roads, and *vice versa*	3 7 6	3 17 6	4 7 6	4 17 6	5 7 6	5 17 6
From Nash Point or Minehead to Kingroad, and *vice versa*	4 12 6	5 7 6	6 2 6	6 17 6	7 12 6	8 7 6
From Nash Point or Minehead to Sharpness, and *vice versa*	10 17 6	12 12 6	14 7 6	16 2 6	17 17 6	19 12 6
From the Holmes or Cardiff Roads to Kingroad, and *vice versa*	1 17 6	2 2 6	2 7 6	2 12 6	2 17 6	3 2 6
From the Holmes or Cardiff Roads to Sharpness, and *vice versa*	8 2 6	9 7 6	10 12 6	11 17 6	13 2 6	14 7 6
Kingroad to Sharpness, 80 and under 100	6 5 0	7 5 0	8 5 0	9 5 0	10 5 0	11 5 0

In lieu of the rates charged in the above schedule the following reduced rates shall be paid from Kingroad to Sharpness or Lydney for all vessels coming light *bona fide* for coal, and for all such vessels laden with coal from Sharpness or Lydney to Kingroad:

	£ s. d.
Under 40 tons	0 13 0
40 tons and under 60 tons	0 15 0
60 " " 80 "	0 18 0
80 " " 100 "	1 0 0
100 " " 120 "	1 2 0
120 " " 150 "	1 4 0
150 " " 180 "	1 6 0
180 " " 200 "	1 8 0
200 " " 300 "	2 0 0
300 " " 400 "	2 10 0
400 tons and under 500 tons	3 2 6
500 " " 600 "	3 15 6
600 " " 800 "	4 7 6
800 " " 1,000 "	5 5 0
1,000 " " 1,200 "	6 5 0
1,200 " " 1,400 "	7 5 0
1,400 " " 1,600 "	8 5 0
1,600 " " 1,800 "	9 5 0
1,800 and upwards	10 5 0

For pilots taken on board of any vessel inward bound to the westward of Ilfracombe, the same pilotage rates as from Lundy Island; if between the Nash Point and Ilfracombe, the same rates as from the Nash Point; if between the Nash Point and the Holmes, the same rates as from the Nash Point; if between the Holmes and Kingroad, the same rates as from the Holmes. For pilots discharged from any vessel on the outward voyage between any of the stages mentioned in the above rates, the same rates as if they had been taken to the next stage beyond the place where they were discharged. For all vessels piloted to Chepstow or to Lydney, the same pilotage rates as to Sharpness, and *vice versa*. For vessels piloted from Sharpness to Lydney, or from Lydney to Sharpness, and then to Kingroad, the same rates as between Sharpness and

Kingroad. For vessels piloted to and from any place in the river Severn above Sharpness, one-fourth more than the rates between Sharpness and Kingroad. All vessels bound to Lydney or Sharpness, or to any place in the river Severn above Sharpness, requiring and having the services of a pilot, shall also employ on board as assistants to the pilots from Kingroad the following number of men, at the undermentioned charge: All vessels of 200 and under 300 tons, 1 man at 7*s.* 6*d.* for the first tide, and 2*s.* 6*d.* for every other tide the vessel moves; 300 and under 500 tons, 2 ditto; 500 and under 700 tons, 3 ditto; 700 and upward, 4 ditto. With English crews: 300 and under 500 tons, 1 man at 7*s.* 6*d.* for the first tide, and 2*s.* 6*d.* for every other tide the vessel moves; 500 and under 700, 2 ditto; 700 and upwards, 3 ditto. Any pilot who remains on any vessel by request after he has discharged the duties for which he was engaged, shall be paid 10*s.* a day or part of a day; and any pilot who shall be required to move any vessel in the dock, harbor, or river, occupying only one tide, shall be paid for any vessel under 300 tons 5*s.*; 300 and under 500, 7*s.* 6*d.*; 500 and under 800, 10*s.*; 800 and upwards, 12*s.* 6*d.* Any pilot who shall be detained by request on any vessel in Kingroad, waiting for water up the river Severn; or outward bound in any roadstead on account of contrary winds, longer than twenty-four hours, shall be paid 10*s.* a day for each day's detention, in addition to the pilotage rates. In case any vessel shall be compelled to bear up and return from the westward from stress of weather or accident, the pilot in charge shall be entitled to one-third of the pilotage charge in addition, according to the distance such vessel may have reached before she shall put back. In addition to the foregoing charges, a clerk or collector's fee, as follows, viz: All vessels under 100 tons, 6*d.*; 100 and under 300 tons, 1*s.*; 300 and under 500 tons, 1*s.* 6*d.*; 500 and under 800 tons, 2*s.*; 800 and upwards, 2*s.* 6*d.*

Goole, Yorkshire. On the right bank of the Ouse, 27 miles above Hull; most inland port on east coast. Pilotage compulsory.

Pilotage; district: Into and out of the port of Goole, and upon any part of the Humber between the said port and a certain part of Hull Roads. Rates per foot: For all ships and vessels, laden or light, piloted inwards from Hull Roads in the Humber, or from any part of the river above Hull Roads; or outwards from Goole, or upon any part of the Humber below Goole to Hull Roads, as follows: Not exceeding 6 feet, 3*s.* 6*d.*; exceeding 6 feet and not exceeding 8 feet, 4*s.*; exceeding 8 feet and not exceeding 10 feet, 4*s.* 6*d.*; 10 feet and upwards, 5*s.*; coastwise, if piloted, 2*s.* 6*d.* For all ships and vessels, laden or light, piloted from Hull or from Hull Roads to any place below Oysterness or Ferriby Sluice, in the river, 1*s.*; and so in proportion for half a foot. For all ships and vessels, laden or light, piloted from Oysterness or Ferriby Sluice to Hull or to Hull Roads, 1*s.* 6*d.*, and so in proportion for half a foot. All ships and vessels piloted from or to Oysterness or Ferriby Sluice pay, in addition to the above rates, the sum of 5*s.* per day for the detention of any pilot on board. Ships and vessels not drawing so much as 6 feet deemed and considered as drawing 6 feet and pay accordingly.

NOTE.—The above charges for pilotage are now under revision, and will probably be considerably modified.

Grangemouth, Stirling. At the entrance of the Forth and Clyde Canal. Pilotage not compulsory.

Pilotage; district not defined. Rates per foot: Under 100 tons, 1*s.*; above 100 and not exceeding 200 tons, 1*s.* 3*d.*; above 200 and not exceeding 300 tons, 1*s.* 6*d.*; 300 and upwards, 2*s.*

Granton, Edinburgh. On Firth of Forth. Pilotage not compulsory; district not defined; rates same as Leith.

Greenock, Renfrew. Pilotage not compulsory.

Pilotage; district: Between Greenock and the Island of Little Cumbrae, including vessels proceeding outwards from and inwards to port Glasgow. Rates. (*See* Glasgow.)

Grimsby, Lincolnshire.—On the Humber, 6 miles above Spurn Point. Pilotage compulsory.

Pilotage; district: Into and out of the port or upon the Humber below Grimsby, and so far out to sea as to bring the Northness of Dimlington to bear or be seen a sufficient distance clear or open of the land to the southward thereof so as to pass clear of the New Sand; and also along the coast northward hereof to the Northness of Dimlington southward to Donna Nook. Rates, per foot: From or to the distance at sea where the Northness of Dimlington bears west-southwest to the northward of Kilnsea North Cliff, to or from the Grimsby docks, 3*s.* 6*d.* From or to the distance at sea where Kilnsea North Cliff bears west-northwest to the northward of the New Sand Buoy, or the floating light-vessel, at the entrance of the river Humber, to or from the Grimsby docks, 2*s.* 6*d.* From or to the said New Sand Buoy, or the floating light-vessel at the entrance of the river Humber, to the eastward of the point where the Spurn high light-house bears northeast, to or from the Grimsby docks, 2*s.* 2*d.* From or to the Spurn high light-house bearing northeast, to or from the Grimsby docks, 2*s.* 2*d.* foot. For the fractional part of a foot, not less than half a foot, a pro-

portionate rate. For intermediate distances, a proportionate rate. Ships and vessels in ballast pay two-thirds of the above rate. Ships and vessels employed in the coasting trade, whether laden or in ballast, pay one-half the above rate. Ships and vessels drawing less than 6 feet pay for 6 feet. New Holland.—Rates for all ships and vessels piloted from New Holland and upon any part of the Humber between New Holland and Kingston-upon-Hull, and *vice versa*, 6*d*. per foot draft. For the fractional part of a foot, not less than half a foot, a proportionate rate. Ships and vessels in ballast pay two-thirds of the above rate. Ships and vessels employed in the coasting trade, whether laden or in ballast, pay one-half the above rate. Ships and vessels drawing less than 6 feet pay for 6 feet.

Hartlepool, West, and Hartlepool, Durham.—Compulsory pilotage.

Pilotage; district: The bay of Hartlepool, inside an imaginary line drawn from Black-Hall Rocks, about 3 miles north of Hartlepool, to a point about 2 miles south of the mouth of the river Tees. Rates per foot: For every British ship or other vessel piloted and conducted within the Hartlepool pilotage district, 1*s*. 6*d*., except coasting vessels and vessels trading between the Elbe and Brest, both inclusive, which from April 1 to October 1 pay at the rate of 1*s*. 3*d*. The commissioners may charge vessels above 400 tons register ¼*d*. per ton on such excess of registered tonnage over and above that number of tons, both inwards and outwards; but this excess does not apply to vessels simply changing ports within the district. Vessels moving from harbor to docks or *vice versa*, not exceeding 50 tons, 2*s*. 6*d*.; exceeding 50 and not exceeding 200, 5*s*.; exceeding 200 and not exceeding 400, 7*s*. 6*d*.; exceeding 400, 10*s*. From and to each harbor within the port of Hartlepool: When any vessel requires to change harbors in the port, the pilotage dues from and after April 1 to October 1, both inclusive, out of Hartlepool docks or harbor, at the rate of 7½*d*. per foot, and into West Hartlepool docks or harbor the same rate; from and after October 1 to April 1 in the following year, both inclusive, out of Hartlepool docks or harbor, 9*d*. per foot; into West Hartlepool docks or harbor, the same rate; and these dues are payable by vessels changing from the docks or harbor of West Hartlepool to the docks or harbor of Hartlepool.

Harwich, Essex. At the southeast extremity of the estuary of the river Stour. Pilotage noncompulsory.

Pilotage; district: To and from the Wallet, Hoseley Bay, or the Sunk Light, into and out of Harwich Harbor, and up the river Stour to Manningtree, and *vice versa*. Rates: From sea or Orfordness to Harwich Harbor, under 10 feet, 42*s*.; 10 to 13 feet, 63*s*.; 13 feet and upwards, 84*s*. From the Rolling Groundsto Harwich Harbor, under 10 feet, 21*s*.; 10 to 13 feet, 31*s*. 6*d*.; 13 feet and upwards, 42*s*. From Harwich Harbor to sea or Orfordness, under 10 feet, 31*s*. 6*d*.; 10 to 13 feet, 42*s*.; 13 feet and upwards, 63*s*. From Harwich Harbor to the Rolling Grounds, two-thirds of the above. For the river Stour: From an imaginary straight line drawn from Shotley Point Martello Tower to the tall chimney of the Harwich Cement Works, to Wrabness, and *vice versa*, 1*s*. 3*d*. per keel; from Wrabness to Mistley and back, inclusive, 3*s*. per keel; from Mistley to Manningtree and *vice versa*, 1*s*. per keel.

Hull, Yorkshire. On the north bank of the Humber, about 20 miles from its mouth. Pilotage compulsory.

Pilotage; district: Into and out of the port of Kingston-upon-Hull and of the port Great Grimsby, and upon any part of the river Humber below Kingston-upon-Hull, and so far out at sea as to bring the Northness of Dimlington to bear or be seen a sufficient distance clear or open of the land to the southward thereof, so as to pass clear of the New Sand; and also along the coast northward to the Northness of Dimlington and southward to Donna Nook. Rates per foot: From or to the distance at sea where the Northness of Dimlington bears west-southwest to the northward of Kilnsea. North Cliff, to or from Hawke Roads or Grimsby Roads, 2*s*. 6*d*., Whitebooth Roads, 3*s*. 6*d*.; the port of Kingston-upon-Hull, 5*s*.; from or to the distance at sea where Kilnsea North Cliff bears west-northwest to the northward of the New Sand buoy or the floating light-vessel at the entrance of the river Humber, to or from Hawke Roads or Grimsby Roads, 1*s*. 6*d*. Whitebooth Roads, 2*s*. 6*d*.; the port of Kingston-upon-Hull, 4*s*.; from or to the said New Sand buoy or the floating light-vessel at the entrance of the river Humber to the eastward of the point where the Spurn high light-house bears northeast to or from Hawke Roads or Grimsby Roads, 1*s*.; Whitebooth Roads, 2*s*.; the port of Kingston-upon-Hull, 3*s*. 6*d*.; from or to the Spurn high light-house, bearing northeast to or from Hawke Roads or Grimsby Roads, 1*s*.; Whitebooth Roads, 2*s*.; the port of Kingston-upon-Hull, 3*s*. 6*d*.; from or to the Hawke Roads, the buoy of the Burcome or Grimsby Roads to or from Whitebooth Road, 1*s*. 6*d*.; the port of Kingston-upon-Hull. 2*s*. 6*d*.; from or to Whitebooth Roads to or from the port of Kingston-upon-Hull, 1*s*. 6*d*. For a fractional part of a foot, not less than half a foot, a proportionate rate. For intermediate distances a proportionate rate. Ships and vessels in ballast pay only two-thirds of the above rates. Ships and vessels employed in the coasting trade, whether laden or in bal-

last, pay one-half of the above rates. Ships and vessels drawing less than 6 feet pay for 6 feet.

Inverness, Invernesshire. Pilotage not compulsory.

Pilotage; district: One section is licensed for the extent of the jurisdiction of the port authorities, the second section is licensed for Inverness and Beauly. Rates: Vessels under 50 tons, 4*s.* in and the same out, and 1*d.* ton additional for every ton over 50 tons.

Ipswich, Suffolk. On the Orwell. Pilotage not compulsory.

Pilotage; district: From Ipswich Quays to Harwich Harbor and *vice versa*. Rates per foot: From the dock entrance to Downham Reach, or *vice versa*, for every sloop or vessel with one mast, 1*s.*; for every other vessel with two or more masts, 1*s.* 3*d.*; from Downham Reach to Levington Creek or *vice versa*, for every ship or vessel, 6*d.*; from Levington Creek to Harwich Harbor or *vice versa*, for every ship or vessel, 6*d.*; for every vessel coming inwards from Harwich Harbor to Downham Reach, 1*s.*; for every vessel outward bound from Downham Reach to Harwich Harbor, 1*s.*

Irvine, Ayrshire. Pilotage not compulsory. Rate, 1½*d.* per ton.

Isle of Man. Pilotage not compulsory.

Kirkcaldy, Fifeshire, in the Frith of Forth. Pilotage not compulsory.

Pilotage; district: From harbor to roadstead, NC. outward. Rates: Inwards, 1*s.* foot and 2*s.* 6*d.* for boat attendance. Outwards as per agreement.

Kirkwall, Orkneys. Pilotage not compulsory.

Lancaster, Lancashire, 5 miles below Glasson Dock, on the River Lune, 12 miles from the sea. Pilotage compulsory.

Pilotage; river pilotage:

River pilotage.	Per foot of the vessel's draft of water.
	s. d.
Within line from Abbey lower light-house at Sunderland Point for or from Glasson:	
Under 200 tons register	1 0
Under 600 tons register	1 6
Under 1,000 tons register	2 0
For 1,000 tons register and above	3 0
Within line from Abbey lower light-house to Sunderland Point for or from the Old or New Quay or Jetty at Lancaster or other place within the said line:	
Under 8 feet draft	1 0
8 feet and under 10 draft	1 4
10 feet and upwards	2 0

For removing any vessel which on her passage to or from the Old Quay or Jetty at Lancaster shall stop and moor at the New Quay, 5*s.* extra.

Sea pilotage on vessels employed in the "oversea" trade:

From—	To or opposite—	Per foot of the vessel's draft of water.			
		Under 200 tons register.	200 tons and under 600 tons register.	600 tons and under 1,000 tons register.	1,000 tons register and upwards.
		s. d.	*s. d.*	*s. d.*	*s. d.*
Within lines from Morecambe Bay light-ship to Formby Point and Haverigg Point, respectively.	Glasson Dock and *vice versa*.	6 0	8 0	9 0	10 0
Within a line with Blackcomb bearing NNE	do	5 0	6 0	7 0	8 0
Danger Patch buoy, or 1 mile outside No. 1 buoy	do	4 6	5 6	6 6	7 6
The anchorage at foot of Wyre or off No. 1 buoy.	do	4 0	4 6	5 0	5 6
Within No. 3 buoy and outside river limits	do	2 0	2 6	3 0	4 0
Piel anchorage	do	5 6	6 6	7 6	8 6
Within lines from Morecambe Bay light ship	Piel anchorage	4 6	6 0	7 0	8 0

On vessels employed in the "coasting" trade one-half of the above rates.

NOTE.—Masters of outward bound vessels may, at their option, dispense with the services of pilots at Danger Patch buoy.

Leith, Midlothian. On the Water of Leith. Pilotage not compulsory.

Pilotage (Leith Harbor and Docks); district: The limits of the port and harbor of

Leith extending from a point at a bridge beyond or east of Seafield Toll Bar; on the eastward of Leith to Wardie Brow or Brae to the westward of Newhaven, and half way across the Firth of Forth. (These limits are extended for pilotage purposes by article 8 of the by-laws and regulations.) Rates per foot: Inwards, 7 feet draft and under, 5*s.* 1*d.*; above 7 and not exceeding 8 feet, 8*s.*; above 8 and not exceeding 9 feet, 9*s.* 9*d.*, above 9 and not exceeding 10 feet, 11*s.* 8*d.*; above 10 and not exceeding 11 feet, 13*s.* 9*d.*; above 11 and not exceeding 12 feet, 16*s.*: above 12 and not exceeding 13 feet, 19*s.* 6*d.*; and for every foot or part of a foot above 13 an additional charge of 1*s.* 6*d.* Extra attendance: For each twenty-four hours' extra attendance on board, when requested by the master, to the master pilot, 3*s.*, and to each of the boatmen 1*s.* 6*d.* Pilot boats and crews: For vessels from foreign ports under 70 tons, 4*s.*; for vessels from foreign ports of 70 and not exceeding 120 tons, 5*s.*; for vessels from foreign ports exceeding 120 and not exceeding 250 tons, 6*s.*; for vessels from foreign ports exceeding 250 tons, 9*s.* Coasting vessels of any size which take a pilot boat to be charged 2*s.* 6*d.* for boat's and men's attendance, besides the pilotage. Outward: Outward rates one-half of those inwards. (Leith, Trinity House); district: The Firth of Forth from Fife Ness on the north to St. Abb's Head on the south; the corporation also have power to license pilots "for seas and firths and along the coasts and islands of the Northern and German Oceans." Rates: For piloting vessels from St. Abb's head or Bell Rock; harbor pilots to limits or Leith Roads, and from there to Carron Roads, etc., and *vice versa:*

Limits.	100 tons and under.	100 to 200 tons.	200 to 300 tons.	300 tons and upwards.
	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
From St. Abb's Head, or Bell Rock, to Leith Roads	2 2 0	3 3 0	4 4 0	5 5 0
From May Island, or Bass Rock, to Leith Roads	1 11 6	2 2 0	3 3 0	3 13 6
From Leith Roads to Carron Roads, or harbors above Queensferry, or from the Hope to Alloa	1 1 0	1 7 6	1 11 6	2 2 0
From Leith Roads to Inverkeithing or the Hope	0 17 6	1 1 0	1 2 6	1 7 6
From Carron Roads to Alloa	0 10 6	0 12 0	0 15 0	1 1 0

For distances between St. Abb's Head to May Island or Bass, and thence to Leith Roads 3*s.* per league to be deducted from above rates, but in no case shall the pilot's fee be reduced more than one-half. The daily pay of a pilot during detention shall, exclusive of his proper pilotage, be 5*s.* for every lay day after the day of the vessel's arrival, over and above his proper maintenance out of the ship's stores. For pilotage, from sea, into and out of the sounds and roadsteads in the Orkney Islands:

Limits.	60 tons and upwards to 100 tons.	100 tons and upwards to 220 tons.	220 tons and upwards to 420 tons.
	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
(1) From 5 miles seaward of Hoy Head through Hoy Sound to anchorage in Stromness Harbor or Kerston Roads, and out again to sea by Hoy Sound	1 5 0	1 15 0	2 12 6
(2) From sea through Hoy Sound to anchorage in Stromness Harbor or Kerston Roads, and out again to sea by Long Hope, and *vice versa*	1 5 0	2 2 0	3 0 0
(3) From sea through Hoy Sound to anchorage in Stromness Harbor or Kerston Roads, and out again to sea by Long Hope and Pentland Frith, and *vice versa*	1 11 6	2 5 0	3 10 0
(4) From sea through Hoy Sound to anchorage in Stromness Harbor or Kerston Roads, and out again to sea by Holm Sound, and *vice versa*	1 8 0	2 0 0	3 0 0

Lerwick, Shetland Islands. Pilotage not compulsory; district not defined; rates as per agreement.

Limerick. On the river Shannon, 60 miles from the Atlantic. Pilotage not compulsory.

Pilotage; district: From quays and docks of Limerick to Loop Head and Kerry Head, at mouth of the river Shannon. Rates:

Registered tonnage.		Between Scattery and Limerick.			Between Scattery and Kilcredane.	Between Kilcredane and Kilcloher Head.	Between Kilcloher and Loop Head.
			Outwards.				
Exceeding—	Not exceeding—	Inwards.	With cargo.	Ballast.			
Tons.	*Tons.*	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
.....	100	1 10 0	1 10 0	1 10 0	1 0 0	0 13 4	0 13 4
100	150	1 13 0	1 13 0	1 13 0	1 0 0	0 13 4	0 13 4
150	200	1 16 0	1 16 0	1 16 0	1 0 0	0 13 4	0 13 4
200	250	2 11 0	2 11 0	2 11 0	1 0 0	0 13 4	0 13 4
250	300	3 0 0	3 0 0	3 0 0	1 0 0	0 13 4	0 13 4
300	350	3 6 0	3 6 0	3 0 0	1 1 3	0 14 2	0 14 2
350	400	4 1 0	4 1 0	3 0 0	1 2 6	0 15 0	0 15 0
400	450	4 7 0	4 7 0	3 0 0	1 3 9	0 15 10	0 15 10
450	500	4 13 0	4 13 0	3 2 0	1 5 0	0 16 8	0 16 8
500	550	5 5 0	5 5 0	3 10 0	1 6 3	0 17 6	0 17 6
550	600	5 8 0	5 8 0	3 12 0	1 7 6	0 18 4	0 18 4
600	650	5 11 0	5 11 0	3 14 0	1 8 9	0 19 2	0 19 2
650	700	5 14 0	5 14 0	3 16 0	1 10 0	1 0 0	1 0 0
700	750	5 17 0	5 17 0	3 18 0	1 11 3	1 0 10	1 0 10
750	800	6 0 0	6 0 0	4 0 0	1 12 6	1 1 8	1 1 8
800	850	6 1 6	6 1 6	4 1 0	1 13 9	1 2 6	1 2 6
850	900	6 3 0	6 3 0	4 2 0	1 15 0	1 3 4	1 3 4
900	950	6 4 6	6 4 6	4 3 0	1 16 3	1 4 2	1 4 2
950	1,000	6 6 0	6 6 0	4 4 0	1 17 6	1 5 0	1 5 0
1,000	1,050	6 7 6	6 7 6	4 5 0	1 18 9	1 5 10	1 5 10
1,050	1,100	6 9 0	6 9 0	4 6 0	2 0 0	1 6 8	1 6 8
1,100	1,200	6 15 0	6 15 0	4 10 0	2 2 6	1 8 4	1 8 4
1,200	1,300	7 1 0	7 1 0	4 14 0	2 5 0	1 10 0	1 10 0
1,300	1,400	7 7 0	7 7 0	4 18 0	2 7 6	1 11 8	1 11 8
1,400	1,500	7 13 0	7 13 0	5 2 0	2 10 0	1 13 4	1 13 4
1,500	1,600	7 19 0	7 19 0	5 6 0	2 12 6	1 15 0	1 15 0
1,600	1,700	8 5 0	8 5 0	5 10 0	2 15 0	1 16 8	1 16 8
1,700	1,800	8 11 0	8 11 0	5 14 0	2 17 6	1 18 4	1 18 4
1,800	1,900	8 17 0	8 17 0	5 18 0	3 0 0	2 0 0	2 0 0
1,900	2,000	9 3 0	9 3 0	6 2 0	3 2 6	2 1 8	2 1 8

Rates for Clare: From sea to mouth of Clare River, or from Limerick to mouth of Clare River, Scattery rates; from Foynes to Smith's Island or from Smith's Island to Clare Quay, and *vice versa*, two-thirds Scattery rates; from Foynes to Clare Quay, Scattery rates.

Littlehampton, Sussex. On the Arun. Pilotage compulsory.

Pilotage; district: Undefined. **Rates:** 2*d.* per ton inwards and 1*d.* outwards, but if vessel goes beyond Ford, then one-half more than the above charges.

Liverpool. On the Mersey. Pilotage compulsory.

Pilotage; district: Compulsory inward pilotage extends from the Middle Mouse, on the coast of Anglesea, to the river Mersey; and compulsory outward pilotage from the Mersey to the fairway buoys of the sea channels of the Mersey. Rates inwards: From Middle Mouse Island, on the true bearing of south, or from any point between the Middle Mouse and Great Orme Head light-house on the same bearing, 9*s.*; from Great Orme Head light-house on the true bearing of south, or from any point between the Great Orme Head light-house on the above bearing and the Queen's Channel Bar, 8*s.* per foot. Outwards: To the Bar light-vessel, if the vessel proceeds through the Queen's Channel, or to the northwest buoy of Hoyle, if the vessel proceeds through the Rock Channel, 4*s.* per foot; coasting vessels pay one-half of the above rates in proportion for every half foot, but no allowance is made for any draft above or under half a foot, and no vessel shall pay for less than 8 feet; from any point between Middle Mouse and Ormes Head to Liverpool, 9*s.*;* from any point between Middle Mouse and Ormes Head to Beaumaris or Holyhead, 10*s.*; from any point between Middle Mouse and Ormes Head to Lancaster Sound or Pile à Foudre, 13*s.*; from Ormes Head to Liverpool, 8*s.*;* from Liverpool to Bar light-ship or Horse Channel, fairway buoy, 4*s.*;* to river Dee, 8*s.*; to Lancaster Sound, Pile à Foudre, or Beaumaris, 10*s.*; to Ormes Head, 8*s.*; to Point Lynas or Isle of Man, 9*s.*; to Holyhead, 11*s.* 6*d.*; to Tuskar, Bristol Channel, Clyde, or Belfast, 14*s.*; to Start Point, 19*s.*; to Dungeness, 24*s.*; Liverpool, trial trip, not farther than Northwest light-ship and back, 8*s.** per foot; coasting vessels one-half the above rates; every additional foot and every half foot charged proportionately, but no allowance made for anything under half a foot.

* Compulsory.

All vessels drawing less than 8 feet to be £8; over 800 tons, £10. From south of Tranmere Slip to any pier north of Prince's Dock Basin, £3 extra; from any part of the river to Brunswick Pier, £2 extra. These extra charges apply to vessels over 800 tons; for vessels under 800 tons £1. Hanging-on in river: Vessels under 700 tons, 30*s.* per hour; above 700 tons, 40*s.* per hour. Attendance on vessels clearing anchors: Over 800 tons, 50*s.*; under 800, 40*s.* per hour. On ships: For the first 3 hours £2 per hour, and 30*s.* per hour for any number of hours beyond the first 3. If employed from 6 a. m. to 6 p. m., or 6 p. m. to 6 a. m., £11 11*s.* All the above rates exclusive of the use of hawser. To sea or down Channel, and tug ordered to return with ship, to be paid the full, and one-half towage for distance towed. From pier or river to between Rock and Crosby light-ship and back to river, half towage to Bell Buoy; from pier or river to between Crosby and Formby light-ships and back to river, full towage to Bell Buoy; from pier or river to between Formby light-ship and Bell Buoy and back to river, full and half towage to Bell Buoy. Towage charged by the hour if the tug is taken beyond the stage agreed upon. If a tug is engaged to tow a ship to any port or station, but through stress of weather or other unavoidable circumstances she is separated from the ship, the tug to be paid pro rata for the distance towed. All engagements made for towing from sea to be to river only, unless the vessel can be taken direct to the pier on the same flood tide as she is towed up. When a tug is ordered, attends, and is not employed, the vessel to pay one-half the rate of towage of such ship from pier to pier.

NOTE.—Other towage rates are sometimes substituted for these by special agreement. Charge for hawsers: Under 500 tons: In river, £1; Bell Buoy, £2; beyond Bell Buoy, £4; beyond Holyhead, £5. Over 500 tons: In river, £2; Bell Buoy, £4; beyond Bell Buoy, £8; beyond Holyhead, £10.

Llanelly, Carmarthenshire. On the river Bury, 14 miles south by east of Carmarthen. Pilotage compulsory.

Pilotage; District: All vessels bound in over Burry Bar shall hoist a pilot signal immediately they pass a line drawn from the Helwick Light-ship to Caldy Light. No definite marks laid down. No pilots are to quit the vessels under their charge until the Worm's Head be open from Burry Holmes, unless the captain directs. The cruising ground is from west of the Helwick Light-ship and east of the Worm's Head. Rates: Station No. 1, west of Helwick Light: Under 100 registered tons 1*s.* 6*d.*; and 1*s.* additional for every 25 tons. Station No. 2, east of Helwick, west of Worm's Head: Under 100 registered tons 1*s.*; and 1*s.* additional for every 25 tons. Station No. 3, east of Worm's Head: Under 100 registered tons, 1*s.*; under 125, 1*s.* 6*d.*; under 150, 2*s.*; under 175, 2*s.* 6*d.*; and 1*s.* in addition for every 25 tons. Rules for the payment of pilots' hobblers taking charge of ships or vessels trading over the bar, and bound to Llanelly, Pembrey, Burry Port, and upwards as far as Llangennech. Limit No. 1: If a pilot be taken on board as far to the westward as to bring Rhossily Church open to the westward of the Holmes, under 40 registered tons, 1*s.* 9*d.*; with an advance of 3*d.* foot on every additional 25 registered tons. Limit No. 2: If taken on board within No. 1, but to the westward of No. 4 buoy for Burry Port, or No. 6 for Llanelly, under 50 registered tons, 1*s.*; and 3*d.* foot for every additional 25 registered tons. Pilots taken on board inside buoy No. 6 when bound for Llanelly, or inside No. 4 when bound for Pembrey, 2*s.* 6*d.* each for hobble. If any vessel shall evade being boarded by a pilot in limit No. 1, she must pay for limit No. 1, although boarded above that limit, beside the penalty of refusing a pilot. Outwards: Under 50 registered tons, 6*d.*; and 3*d.* for every additional 25 registered tons. Each vessel to pay 1*s.* for the boat. Vessels proceeding above Llanelly pay as follows, in addition to the rates inwards and outwards from Llanelly: From Llanelly to Penclawdd, under 50 registered tons, 3*s.* 6*d.*; from 50 to 100, 4*s.* 6*d.*; from 100 to 150, 5*s.* 6*d.*; from 150 to 200, 7*s.* each vessel. To Spitty, and *vice versa*, under 50 registered tons, 5*s.*; from 50 to 100, 7*s.*; from 100 to 150, 9*s.* 6*d.*; from 150 to 200, 10*s.* 6*d.* each vessel. And from Penclawwd to Spitty, and *vice versa*, as follows: Under 50 registered tons, 3*s.* 6*d.*; from 50 to 100, 4*s.* 6*d.*; from 100 to 150, 5*s.* 6*d.*; from 150 to 200, 7*s.* each vessel. The following rates of harbor pilotage for all vessels under 50 registered tons, 2*s.*; under 75, 2*s.* 6*d.*; under 100, 3*s.* each vessel; and 6*d.* for every 25 registered tons. For removing from or to Llanelly and Pembrey: Under 50 registered tons, 3*s.* 6*d.*; under 75, 4*s.* 6*d.*; under 100, 5*s.* 6*d.* each vessel; and 1*s.* for every additional 25 tons. For removing from Pembrey harbor to Burry Port, and *vice versa*: Under 50 registered tons, 3*s.* 6*d.*; under 75, 4*s.*; under 100, 4*s.* 6*d.* each vessel; and 6*d.* extra for every additional 25 registered tons.

London. The capital of the United Kingdom. Latitude 51° 30′ N.; longitude 0° 5′ W. On the river Thames, about 50 miles from its mouth. Pilotage compulsory.

Pilotage: Rates for pilots licensed by the corporation of Trinty House of Deptford Strond, or acting as such under the authority of the acts of Parliament, 6 George IV, c. 125; 16 and 17 Vict., c. 129; and 17 and 18 Vict., c. 104, for piloting ships and vessels within the limits mentioned in the table on pp. 219, 220. From sea in or out of Ramsgate, Margate, Dover, or Sandwich harbors, 5*s.* per foot draft. For vessels exceeding

22 feet an increase in the rates for each foot or part of a foot, in the same proportion as between 22 and 23 feet. For putting a pilot on board a vessel, either from the cutters or from the shore, 60 and under 150 tons, 20*s.*; 150 and under 250, 25*s.*; 250 and under 400, 30*s.*; 400 and under 600, 40*s.*; 600 and under 1,000, 50*s.*; 1,000 and upwards, 63*s.* Vessels not exceeding 70 tons, chiefly laden inwards with fish, corn, or other provisions, pay during the summer months, viz, from Lady day to Michaelmas day inclusive, the following rates, viz: From sea to London or *vice versa*, 94*s.* 6*d.*; Gravesend to London or *vice versa*, 25*s.* Vessels exceeding 70 tons and not exceeding 100 tons, chiely laden inwards with fish, corn, or other provisions, pay during the summer months, viz, from Lady day to Michaelmas day inclusive, the following rates for the outward voyage, viz: From London to Gravesend 25*s.*; to the Nore, 58*s.*; to the sea, 105*s.* A pilot taking charge of a foreign vessel, on board of which there may not be any individual qualified to interpret his orders, is authorized to employ a person to assist him as leadsman or interpreter; provided it be distinctly understood that the necessity for the employment of such person shall be proved to the satisfaction of the corporation of Trinity House, in which case only the following rates shall be chargeable in addition to the regular pilotage, viz, for the whole run from sea to Gravesend 50*s.*; from Gravesend to sea, 20*s.*

Table showing rates of pilotage.

From—	To—	7 feet and under.	8 feet.	9 feet.	10 feet.	11 feet.	12 feet.	13 feet.	14 feet.	15 feet.	16 feet.	17 feet.	18 feet.	19 feet.	20 feet.	21 feet.	22 feet.	23 feet.
		£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
Isle of Wight, and *vice versa*...	The Downs	3 10	4 0	4 10	5 0	5 10	6 0	6 10	7 2	7 14	8 9	9 4	10 4	11 4	12 14	14 4	16 4	18 4
Off Dungeness to off Folkestone, the church bearing NNW. by compass, and *vice versa*.	....do	0 18	1 0	1 2	1 4	1 6	1 8	1 10	1 13	1 16	2 0	2 4	2 9	2 14	3 0	3 6	3 16	4 6
Off Folkestone to the South Foreland; the lights in one, and *vice versa*.	....do	0 10	0 12	0 14	0 16	0 18	1 0	1 2	1 5	1 8	1 12	1 16	2 1	2 6	2 12	2 18	3 6	3 14
The Sea, the Downs, Orfordness, or Hosely Bay, and *vice versa*.	The Nore or Warps	3 5	3 14	4 3	4 12	5 1	5 10	5 19	6 9	6 19	7 15	8 11	9 11	10 11	11 16	13 1	14 16	16 11
	Sheerness, Stangate Creek, or Blackstakes.	3 14	4 5	4 16	5 7	5 18	6 9	7 0	7 13	8 6	9 4	10 2	11 7	12 12	14 4	15 16	17 16	19 16
	Gravesend or Chatham	4 3	4 16	5 9	6 2	6 15	7 8	8 1	8 16	9 11	10 11	11 11	13 1	14 11	16 11	18 11	20 16	23 1
Pilots (in or out) continuing in charge to or from any of the following places are to be paid:																		
The Sea, the Downs, Orfordness, or Hoseley Bay, and *vice versa*.	Long Reach or Greenhithe	4 7	5 1	5 15	6 9	7 3	7 17	8 11	9 6	10 1	10 19	11 17	13 12	15 7	17 12	19 7	22 7	24 17
	Erith	4 12	5 6	6 0	6 14	7 8	8 2	8 16	9 12	10 8	11 8	12 8	14 8	16 8	18 13	20 18	23 13	26 8
	Woolwich or Blackwall	4 14	5 9	6 4	6 19	7 14	8 9	9 4	10 0	10 16	11 16	12 16	14 16	16 16	19 6	21 16	24 11	27 6
	Moorings, London Docks, City Canal, or St. Katherine's Docks.	5 0	5 15	6 10	7 5	8 0	8 15	9 10	10 7	11 4	12 4	13 4	15 9	17 14	20 4	22 14	25 14	28 14
The Nore or Warps, and *vice versa*.	Greenhithe, Long Reach, or Chatham.	2 2	2 7	2 12	2 17	3 2	3 7	3 12	3 18	4 4	4 12	5 0	5 10	6 0	6 15	7 10	8 8	9 16
	Erith	2 5	2 11	2 17	3 3	3 9	3 15	4 1	4 8	4 15	5 6	5 17	6 12	7 7	8 5	9 3	10 8	11 13
	Woolwich or Blackwall	2 10	2 16	3 2	3 8	3 14	4 0	4 6	4 16	5 6	5 18	6 10	7 5	8 0	9 0	10 0	11 10	13 0
	Moorings, London Docks, City Canal, or St. Katherine's Docks.	2 18	3 5	3 12	3 19	4 6	4 13	5 0	5 10	6 0	6 12	7 4	8 4	9 4	10 9	11 14	13 4	14 14
The Nore or Warps, and *vice versa*.	Sheerness, Stangate Creek, or Blackstakes.	0 17	1 0	1 3	1 6	1 9	1 12	1 15	1 18	2 2	2 6	2 10	2 14	2 18	3 2	3 6	3 10	3 14
	Gravesend	1 15	2 0	2 5	2 10	2 15	3 0	3 5	3 11	3 17	4 5	4 13	5 5	5 17	6 13	7 9	8 9	9 9
Erith Reach, and *vice versa*..	Woolwich or Blackwall	0 15	0 18	1 1	1 4	1 9	1 14	1 19	2 5	2 11	2 18	3 5	3 13	4 1	4 11	5 1	5 13	6 5
	Moorings, London Docks, City Canal, or St. Katherine's Docks.	1 1	1 4	1 7	1 10	1 15	2 0	2 5	2 11	2 17	3 4	3 11	3 19	4 7	4 17	5 7	5 19	6 11
Gravesend Reach, and *vice versa*.	Greenhithe or Long Reach	0 9	0 13	0 17	1 1	1 5	1 9	1 13	1 18	2 3	2 9	2 15	3 2	3 6	3 11	4 6	4 18	5 10
	Erith	0 15	1 0	1 5	1 10	1 15	2 0	2 5	2 11	2 17	3 4	3 11	4 1	4 11	5 5	5 19	6 17	7 15
	Woolwich or Blackwall	1 0	1 6	1 12	1 16	2 4	2 10	2 16	3 4	3 11	3 19	4 7	4 19	5 11	6 11	7 11	8 16	10 1
	Moorings, London Docks, City Canal, or St. Katherine's Docks.	1 4	1 11	1 18	2 5	2 12	2 19	3 6	3 14	4 2	4 11	5 0	5 15	6 10	7 15	9 0	10 10	12 0

Table showing rates of pilotage—Continued.

From—	To—	7 feet and under.	8 feet.	9 feet.	10 feet.	11 feet.	12 feet.	13 feet.	14 feet.	15 feet.	16 feet.	17 feet.	18 feet.	19 feet.	20 feet.	21 feet.	22 feet.	23 feet.
		£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.	£ s.
Gravesend Reach, and *vice versa*—Continued.	Sheerness, Stangate Creek, or Blackstakes.	2 10	2 15	3 0	3 4	3 10	3 15	4 0	4 7	4 14	5 4	5 14	6 6	6 18	7 13	8 8	9 6	10 4
	Chatham	2 18	3 3	3 8	3 13	3 18	4 3	4 8	4 15	5 2	5 12	6 2	6 17	7 12	8 5	9 8	10 8	11 8
Greenhithe, or Long Reach, and *vice versa*.	Woolwich or Blackwall	0 17	1 0	1 3	1 6	1 12	1 18	2 4	2 12	3 0	3 9	4 18	4 8	4 18	5 16	6 14	7 14	8 14
	Moorings, London Docks, City Canal, or St. Katherine's Docks.	1 3	1 6	1 9	1 14	2 2	2 10	2 18	3 6	3 14	4 3	4 12	5 4	5 16	6 11	7 6	8 11	9 16
	Sheerness, Stangate Creek, or Blackstakes.	2 18	3 1	3 4	3 7	3 14	4 1	4 8	4 15	5 2	5 10	5 18	6 8	6 18	7 13	8 8	9 6	10 4
	Chatham	3 6	3 9	3 12	3 15	4 3	4 11	4 19	5 7	5 13	6 3	6 13	7 8	8 3	8 14	9 4	10 19	11 19
Woolwich or Blackwall, and *vice versa*.	Moorings, London Docks, City Canal, or St. Katherine's Docks.	0 17	1 0	1 3	1 6	1 9	1 12	1 15	1 18	2 2	2 6	2 10	2 14	2 18	3 2	3 6	3 10	3 14
	Sheerness, Stangate Creek, or Blackstakes.	3 6	3 10	3 14	3 18	4 2	4 10	4 18	5 8	5 18	6 10	7 2	7 14	8 5	8 14	10 10	11 15	13 0
	Chatham	3 14	3 17	4 0	4 3	4 11	4 19	5 7	5 17	6 7	6 19	7 11	8 5	8 14	9 4	11 0	12 5	13 10
Chatham	Sheerness, Stangate Creek, or Blackstakes.	1 15	1 18	2 1	2 4	2 11	2 18	3 5	3 12	3 19	4 6	4 13	5 0	5 7	5 14	6 1	6 11	7 1

The additional rate for intermediate portions of a foot in the draft to be regulated as follows, viz: For 3 inches and under, no addition; for more than 3 inches and under 9 inches, the medium between the two rates; for 9 inches and upward, the rate for the next foot. For removing a ship or vessel from moorings into a dry or wet dock, or from one part of the river situated above Blackwall to another part of the river so situated, for a ship under 300 tons 15*s.*; of 300 to 600, 21*s.*; of 600 to 1,000, 31*s.* 6*d.*; above 1,000, 42*s.* In the Thames above Gravesend, for a boat of a class carrying an anchor of above 4 cwt., with a corresponding tow-line, 42*s.*; for a boat of a class carrying an anchor of about 2 cwt., 21*s.*; for a boat of a class carrying an anchor under 2 cwt., 15*s.* Per trip for the whole distance from Gravesend to London, and in proportion for any part of that distance, and for each man's service in those boats, 8*s.* per tide.

Londonderry, Ulster. Pilotage compulsory.

Pilotage; district: From 1 mile outside or seaward of the northeast buoy on the Tuns Bank to bridge at Londonderry. Rates per vessel.—Inward: 7 feet and under, 14*s.*; 7 feet and under 8 feet, 2*s.*; 8 feet and under 9 feet, 2*s.* 2*d.*; 9 feet and under 10 feet, 2*s.* 4*d.*; 10 feet and under 11 feet, 2*s.* 8*d.*; 11 feet and under 12 feet, 3*s.*; 12 feet and under 13 feet, 3*s.* 4*d.*; 13 feet and under 14 feet, 3*s.* 8*d.*; 14 feet and under 15 feet, 4*s.*; 15 feet and upward, 4*s.* 4*d.* foot, and inches in proportion. Outward: 7 feet and under, 10*s.* 6*d.*; 7 feet and under 8 feet, 1*s.* 6*d.*; 8 feet and under 9 feet, 1*s.* 9*d.*; 9 feet and under 10 feet, 2*s.*; 10 feet and under 11 feet, 2*s.* 3*d.*; 11 feet and under 12 feet, 2*s.* 6*d.*; 12 feet and under 13 feet, 2*s.* 9*d.*; 13 feet and under 14 feet, 3*s.*; 14 feet and under 15 feet, 3*s.* 3*d.*; 15 feet and upward, 3*s.* 6*d.* foot, and inches in proportion. Vessels of 40 tons register and under, when sailing in ballast, free. Vessels of 30 tons burden per register and under pay 10*s.* inward and 6*s.* outward; above 30 tons and not exceeding 40 tons, if bound coastwise, sailing in ballast, 6*s.* outward; wind-bound vessels half pilotage in and half pilotage out, to or from Moville or Quigley's Point. All vessels laden with bark under 120 tons pay 6*d.* foot extra pilotage; 120 tons and not exceeding 150 tons, 9*d.*; exceeding 150 tons, 1*s.* per foot extra. All ships from, or if bound to, foreign ports, having on board half their registered tonnage of cargo, or with passengers, to pay 4*d.* foot pilotage, in addition to the above rates. Vessels trading to and from this port and harbor, and not proceeding farther up the river than Carickarory Pier or Moville, pay one-half pilotage inward and one-half pilotage outward; not proceeding further than Quigley's Point, two-thirds pilotage inward and two-thirds pilotage outward. Vessels which have cleared the lough and by stress of weather obliged to return pay one-third in and one-third out, provided they do not anchor above Quigley's Point. If above that or at the ship quay, half pilotage. Pilots detained on board vessels or in Derry are entitled to 4*s.* per day.

Lowestoft, Suffolk. Pilotage not compulsory.

Pilotage; district: For piloting vessels into and out of the harbor of Lowestoft. Rates per foot: 8 feet draft and under, 1*s.* 6*d.*; above 8 feet and under 9 feet, 1*s.* 9*d.*; 9 feet and under 10 feet, 2*s.*; 10 feet and under 11 feet, 2*s.* 3*d.*; 11 feet and under 12 feet, 2*s.* 6*d.*; 12 feet and under 13 feet, 2*s.* 9*d.*; 13 feet and under 14 feet, 3*s.*; 14 feet and under 15 feet, 3*s.* 6*d.*; 15 feet and under 16 feet, 4*s.* All vessels receiving pilotage assistance inside the harbor are charged for such services a fixed sum, settled and determined by the subcommissioners. Vessels piloted into the harbor, if between 100 tons and 250 tons, pay 5*s.*, and vessels exceeding 250 tons pay 1*s.* for every 50 tons or any portion of 50 tons for use of boats.

Lynn, Norfolk. On the outlet of the Onse into the Wash. Pilotage compulsory.

Pilotage; district: Into or out of the port of King's Lynn, or between St. Edmund's Ness (or Gore End) and Staple Ware. In practice the pilots conduct vessels between Lynn Harbor southward and the bell buoy in Lynn Lower roads northward. Rates: Not exceeding 10 feet, 1*s.* 6*d.*; exceeding 10 feet and not exceeding 12 feet, 1*s.* 9*d.*; exceeding 12 feet and not exceeding 14½ feet, 2*s.*; exceeding 14½ feet, 2*s.* 6*d.* foot draft when loaded. No allowance made for any number of inches not amounting to half a foot. Additional rates for docking, undocking, mooring, and unmooring vessels, or other extraordinary service, viz: Sailing vessels over sea, not exceeding 100 tons register, 4*s.*; exceeding 100 tons and not exceeding 250 tons, 5*s.*; exceeding 250 tons and not exceeding 450 tons, 6*s.*; exceeding 450 tons, 7*s.* 6*d.*; for all steamers over sea, 10*s.* Vessels coastwise: For every service rendered beyond the ordinary pilot service, 1*s.*; for mooring vessel, 2*s.* 6*d.*; for every day after the first day a pilot is detained in the Channel on board any inward-bound vessel, 10*s.*; for attending any outward-bound vessel which subsequently proceeds to sea without a pilot, 2*s.* 6*d.*

Maldon, Essex. Latitude 51° 44′ N.; longitude 0° 40′ E. Situated at the confluence of the Blackwater and the Chelmer. There is no regular harbor.

Maryport, Cumberland. On the Ellen. Pilotage not compulsory; rates by agreement.

Middlesboro', Yorkshire. On the Tees, about 8 miles from its mouth and 4½ miles below Stockton (*see also* Stockton-on-Tees). Pilotage not compulsory.

Pilotage.—Rates per foot: Tees rates from April 1 to October 1, 1*s.* 9*d.*; from October 1 to April 1, 2*s.* Tees River pilotage all the year round, 1*s.* 9*d.* Tees rates for docking and transporting not exceeding 200 tons register, 5*s.*; not exceeding 400 tons, 7*s.* 6*d.*; not exceeding 600 tons, 10*s.*; not exceeding 800 tons, 15*s.*; not exceeding 1,000 tons, 17*s.* 6*d.*; not exceeding 1,500 tons, £1; not exceeding 2,000 tons, £1 5*s.*; exceeding 2,000 tons, £1 10*s.* Ships over 400 tons register shall pay one-half penny per ton on the excess of tonnage above 400 tons in addition to the above pilotage dues. Vessels having lee-boards pay 5*s.* in addition to the above rates.

North Sea and east coast:

Milford Haven (Port of), Pembrokeshire.

Pilotage; district: From Caldy Island along the coast to St. David's Head, and thence to Cardigan Island, and *vice versa*. Rates per foot: From a line drawn from St. Anne's Point to Sheep's Island to any part of the harbor below a line drawn from Newton Noyes Point to Martin's Haven, under 14 feet, 2*s.* 6*d.*; 14 feet and upwards, 3*s.* 6*d.*; from a line drawn from St. Anne's Point to Sheep's Island, or from Hubberstone Road, to any place above a line drawn from Newton Noyes Point to Martin's Haven, in addition, under 14 feet, 2*s.*; 14 feet and upwards, 2*s.* 6*d.* Vessels inward-bound not boarded until they have passed a line drawn from Rat Island to Watwick Point pay one-fourth less than these rates, and if not boarded until they have passed a line drawn from Thorn Island to Great Castle Head, one-half only of these rates; and if not boarded until they have passed the Stack Rock to a line to Newton Noyes Point to Martin's Haven, they are not chargeable with any pilotage, unless the masters require pilotage assistance. Additional rate for ships boarded without the entrance of the harbor: From a line drawn from Luney Point to Skokam Island, 2*s*; if to the southward of St. Gowan's Head to Skokam Island, 1*s.* foot; or from Caldy Island eastward, or from the westward of the Grassholm, or 3 leagues without Luney Point, £3 3*s.*; 6 leagues without Luney Point, £4 4*s.*; 10 leagues, £6 6*s.* For services and assistance in the harbor, not exceeding the following rates, at the discretion of the subcommissioners: For a boat carrying an anchor above 6 cwt., with a corresponding hawser, if in Hubberstone Road, £2 2*s.*; each man in the boat each tide, 5*s.*; if below Hubberstone Road, a line drawn from the East Point of Gilliswick to the East Point of Angle Bay and above the Stack Rock, £2 12*s* 6*d*; each man in the boat each tide, 5*s.*; if in Dale Road and the anchor is brought from Milford, £4 4*s.*; or if carried off from Dale, £2 12*s.* 6*d.*; each man in the boat each tide, 5*s.* For a boat carrying off an anchor 3 cwt., and not exceeding 6 cwt., with a corresponding hawser, the boat and men to have three-fourths of the above-specified sums. For a boat with an anchor 2 cwt., and not exceeding 3 cwt., with a corresponding hawser, the boat and to have men one-half of the above sums. For unmooring a ship drawing 14 feet of water and upwards, and bringing her alongside the quay, or into Hubberstone Pill, from the situation first or second before mentioned, for the pilot, 21*s.*; if with a boat, an additional sum of 10*s.* 6*d.*; each person employed, 5*s.* From the third station specified, for the pilot, 31*s.* 6*d.*; if with a boat, an additional sum of 10*s.* 6*d.*; each person employed, 5*s.* Ships under 14 feet draft of water, to or from the situations before mentioned, three-fourths of the sums for the pilot; the boats and men as above specified. For new mooring a ship drawing 14 feet in either of the above situations, for the pilot, 10*s.* 6*d.*; if with a boat, an additional sum not exceeding 10*s.* 6*d.*; each person employed not exceeding 5*s.*

Montrose, Forfar, at the mouth of the river Esk. Pilotage not compulsory.

Pilotage; Rates:

Registered ton.	Vessels from foreign ports, inwards and outwards.	Vessels coastwise.	
		Inwards.	Outwards.
	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
All under 50 tons	0 10 0	0 6 0	0 4 0
50 and under 60 tons	0 13 0	0 8 0	0 5 0
60 " 70 "	0 15 0	0 9 0	0 6 0
70 " 85 "	0 17 6	0 10 0	0 7 6
85 " 100 "	1 0 0	0 12 0	0 8 0
100 " 120 "	1 5 0	0 15 0	0 10 0
120 " 150 "	1 10 0	1 0 0	0 10 0
150 " 200 "	1 15 0	1 0 0	0 15 0
200 " 300 "	2 0 0	1 2 6	0 17 6
300 " 400 "	2 5 0	1 5 0	1 0 0
400 " 550 "	2 10 0	1 10 0	1 0 0
550 " 750 "	3 0 0	2 0 0	1 0 0
750 and upwards	3 10 0	2 2 6	1 2 6

Pilot master's fee, 6*d.* per mast. Tide's work of boat and crew as per agreement. Extra pilotage fee of one-half the inward pilotage dues to be paid by vessels moored fore and aft to both of the Stell buoys, and transported to or from the buoys from or to the dock or quays.

Newcastle-on-Tyne, Northumberland. Pilotage not compulsory.

Pilotage; district: The whole of the river Tyne and extending seaward over a radius of 7 miles.

Rates per foot:

	Apr. 1 to Sept. 30.	Oct. 1 to Mar. 31.
	s. *d.*	*s.* *d.*
Sea to dock or from dock to sea	1 3	1 6
Sea to Bill Point or Bill Point to sea	2 3	2 6
Sea to east side of Newcastle bridge or the reverse	2 9	3 6
Sea to suspension bridge at Scotswood or the reverse	3 4	3 6
Dock to Bill Point or Bill Point to dock	1 0	1 0
Dock to east side of Newcastle bridge or the reverse	1 6	1 6
Dock to suspension bridge at Scotswood or *vice versa*	2 0	2 0
Bill Point to east side of Newcastle bridge or *vice versa*	1 0	1 0
Bill Point to Scotswood Suspension bridge or *vice versa*	1 0	1 0
East side of Newcastle bridge to Scotswood Suspension bridge or *vice versa*	1 0	1 0

Not less than 1*s.* per foot to be charged for pilotage between any two stations as above. Vessels exceeding 500 tons register pay ¼*d.* per ton on the excess of tonnage above 500 tons for pilotage from sea to any of the docks, and ¼*d.* ton extra for pilotage to any part of the river west of any of the docks, and *vice versa*, but in no case shall this extra tonnage rate be paid between a vessel entering and leaving the port more than once inwards to the docks, once from the docks westward, once from any part of the river above the docks to the docks, and once from the docks or below the docks to sea. Vessels having leeboards pay 5*s.* in addition to the above rates. In the case of vessels bound from or to sea from or to any of the docks and unable from any cause to enter or proceed to sea the same tide, pilots must, if required, attend the first following available tide to dock such vessels, or take them to sea, as the case may require, without any additional remuneration. For docking or transporting (not covered by the above) from tier to dock or from dock to tier, not exceeding 200 registered tons, 5*s.*; 400, 7*s.* 6*d.*; 600, 10*s.*; 800, 12*s.* 6*d.*; 1,000, 15*s.*; 1,500, 17*s.* 6*d.*; 2,000, 20*s.*; exceeding 2,000, 25*s.* In the case of vessels exceeding 400 tons, two-thirds of the above rates are charged for moving vessels from tier to tier or from tier to any dry dock within 300 yards. For pilot's attendance in harbor, when required on any vessel, when not ultimately engaged as pilot to such vessel, per day 7*s.* 6*d.*; for attending at the launch of any vessel in the river Tyne and conducting her to her mooring in dock or otherwise, not exceeding 400 registered tons, 20*s.*; 600, 25*s.*; 800, 30*s.*; 1,000, 32*s.* 6*d.*; 1,500, 35*s.*; 2,000, 40*s.*; exceeding 2,000, 45*s.*

Newhaven, Sussex. Pilotage not compulsory.

Pilotage; district: From Dungeness westward to Brighthelmstone (inclusive), and from Brighthelmstone (inclusive) to Dungeness. Rates (inwards and outwards). Coast pilotage from Dungeness to the west end of the Owers:

	£ *s.* *d.*		£ *s.* *d.*
7 feet water and under	2 16 6	16 feet	6 15 0
7 to 10	4 4 6	17	7 2 0
11	4 13 0	18	8 5 0
12	5 1 6	19	9 15 0
13	5 9 6	20	11 5 0
14	5 18 0	21	12 15 0
15	6 6 0	Above 21	13 10 0

Harbor pilotage, 8 feet draft and under, 1*s.* 6*d.*; above 8 feet and not exceeding 10 feet, 1*s.* 9*d.*; above 10 feet and not exceeding 12 feet, 2*s.* 6*d.*; above 12 feet and not exceeding 14 feet, 3*s.*; above 14 feet and not exceeding 16 feet, 3*s* 6*d.*; 16 feet and upwards, 4*s.* per foot. Pilotage for the beaches of Brighthelmstone, Hastings, or Bexhill: 8 feet and under, 1*s.* 3*d.*; 8 to 10 feet, 1*s.* 9*d.*; above 10 feet, 2*s.* per foot. Ships in distress pay according to circumstances.

Newport, Monmouthshire. Pilotage compulsory.

Pilotage, district: The Bristol Channel to the eastward of Lundy Island, up to and including King Road and the river Usk, as far as Caerleon Bridge. Rates:

For laden and unladen vessels.	Under 100 tons.	100 tons and under 200.	200 tons and under 300.	300 tons and under 400.	400 tons and under 500.	500 tons and under 600.	600 tons and under 700.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
From Newport to River's Mouth and *vice versa*	0 10 0	0 15 0	0 17 6	1 2 6	1 5 0	1 6 0	1 8 0
From Newport to Holmes, and *vice versa*	0 15 6	1 0 0	1 10 0	1 15 0	2 1 0	2 3 0	2 8 0
From Newport to Nash Point or Minehead, and *vice versa*	1 2 6	1 15 0	2 5 0	2 17 6	3 1 0	3 5 6	3 13 0
From Newport to Ilfracombe or East of Coombe, and *vice versa*	1 12 6	2 7 6	3 5 0	3 12 6	4 3 6	4 10 6	5 3 0
From Newport to Lundy Island or West of Ilfracombe, and *vice versa*	2 5 0	3 0 0	4 0 0	4 12 6	5 6 0	5 18 0	6 13 0

For laden and unladen vessels.	700 tons and under 800.	800 tons and under 900.	900 tons and under 1,000.	1,000 tons and under 1,200.	1,200 tons and under 1,500.	1,500 tons and under 1,800.	1,800 tons and upwards.
	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.	£ s. d.
From Newport to River's Mouth, and *vice versa*	1 9 0	1 10 0	1 12 0	1 15 0	2 5 0	2 10 0	3 0 0
From Newport to Holmes, and *vice versa*	2 10 0	2 12 0	2 15 0	3 0 0	3 10 0	4 0 0	4 10 0
From Newport to Nash Point or Minehead, and *vice versa*	3 15 0	4 2 0	4 5 0	5 0 0	5 10 0	6 10 0	7 5 0
From Newport to Ilfracombe or East of Coombe, and *vice versa*	5 7 6	5 17 0	6 0 0	7 0 0	8 0 0	9 5 0	9 15 0
From Newport to Lundy Island or West of Ilfracombe, and *vice versa*	6 15 0	7 17 0	8 0 0	9 10 0	11 0 0	12 0 0	13 0 0

New Ross. Pilotage not compulsory.

Pilotage; district: From the junction of the river Barrow with the river Suir, to the entrance to the canal at St. Mullin's, on the river Barrow, and to the lock quay of Inistioge, on the river Suir. Rates:

Registered tonnage.	Foreign.	United Kingdom.	Registered tonnage.	Foreign.	United Kingdom.
	£ s. d.	£ s. d.		£ s. d.	£ s. d.
30 and under 40	0 8 0	0 5 0	272 and under 300	2 9 6	1 13 0
40 " 50	0 10 0	0 6 0	300 " 325	2 11 9	1 14 6
50 " 60	0 11 6	0 7 6	325 " 350	2 14 0	1 16 0
60 " 70	0 15 9	0 10 6	350 " 375	2 16 3	1 17 6
70 " 80	0 18 0	0 12 0	375 " 400	2 18 6	1 19 0
80 " 90	1 0 3	0 13 6	400 " 450	3 0 9	2 0 6
90 " 100	1 2 6	0 15 0	450 " 500	3 5 3	2 3 0
100 " 110	1 4 9	0 16 6	500 " 550	3 9 9	2 5 6
110 " 120	1 7 0	0 18 0	550 " 600	3 14 3	2 8 0
120 " 130	1 9 3	0 19 6	600 " 650	3 18 9	2 10 6
130 " 140	1 11 6	1 1 0	650 " 700	4 3 3	2 13 0
140 " 150	1 13 9	1 2 6	700 " 750	4 7 9	2 15 6
150 " 160	1 16 0	1 4 0	750 " 800	4 12 3	2 18 0
160 " 175	1 18 3	1 5 6	800 " 850	4 16 9	3 0 6
175 " 200	2 0 6	1 7 0	850 " 900	5 1 3	3 3 6
200 " 225	2 2 9	1 8 6	900 " 950	5 5 9	3 5 0
225 " 250	2 5 0	1 10 0	950 " 1,000	5 10 3	3 8 6
250 " 275	2 7 8	1 11 6	1,000 and upwards	5 14 9	3 10 0

All vessels proceeding up the port and harbor above the limits of the borough of New Ross, pay additional rates not exceeding one-third more than the above rates.

Down County. At the head of Carlingford Bay. Pilotage not compulsory.

Pilotage; district: From Lough Carlingford to the entrance to the Newry Canal, or river of Newry. Rates: River pilotage—For every vessel inwards 1*d.*, outwards ½*d.* registered ton; if the pilot is required to remain on board the vessel while passing through the canal to or from Newry, 2*s.* 6*d.* additional.

Padstow, Cornwall. On the Camel. Pilotage not compulsory.

Pilotage; district: Between the Mouls eastward of Pentyre Point and the Quays westward of Trevose Head. Rates per foot: Between Stepper Point and Padstow inwards, on vessels of 50 tons per register and under, 9 feet draft and under, 10*d.*, more than 9 feet, 1*s.*; on vessels above 50 tons and not exceeding 100 tons, 10 feet draft and under, 1*s.* 2*d.*, 11 feet and under 12 feet, 1*s.* 6*d.*, 12 feet and upwards, 2*s.*; on vessels above 100 tons and not exceeding 150, 9 feet draft and under, 2*s.* 6*d.*, above 9 feet and under 12 feet, 3*s.*, above 12 feet and under 16 feet, 4*s.*, above 16 feet and upwards, 5*s.*; outward pilotage one-half the inward rate.- Inwards or outwards, vessels above 150 tons and not exceeding 200 tons, 9 feet draft and under, 3*s.*, above 9 feet and under 12 feet, 4*s.*, above 12 feet and under 16 feet, 5*s.*, above 16 feet and upwards, 6*s.*; on vessels exceeding 200 tons, 9 feet draft and under, 4*s.*, above 9 feet and under 12 feet, 5*s.*, above 12 feet and under 16 feet, 6*s.*, above 16 feet and upwards, 7*s.* Vessels taking a pilot on board to seaward of a line drawn from Pentyre Point to Gunver Head, but within a line from the Mouls to the Quays pay 1*s.* per foot in addition to the rates above. Vessels taking a pilot to seaward of such line, but within the distance of 3 leagues of the land, pay 1*s.* 6*d.* per foot in addition to the said rates. A pilot taken on board a vessel at sea is entitled to the following additional pay, viz: If at 3 leagues from the land, £2; if at 6 leagues from the land, £2 13*s.* 4*d.*; if at 10 leagues of the land, £4. Vessels piloted from Padstow to sea and returning in consequence of stress of weather, contrary winds, or accident, into the port within 36 hours from the time of sailing are subject to half pilotage. Pilots detained on board of vessels are paid 10*s.* 6*d.* per day. Pilots boarding vessels not in charge of unlicensed men, after they have arrived abreast of the Inner Capstan, are not entitled to more than three-fourths of the pilotage for piloting a vessel from Stepper Point to Padstow; if after they shall have arrived abreast of Gun Point, no more than two-thirds; and if after they shall have arrived abreast of St. Saviour's Point, not more than one-half. Pilots boarding vessels in charge of unlicensed men before they arrive abreast of the Inner Capstan, are entitled to receive three-fourths, and the unlicensed man one-fourth of the pilotage for piloting a vessel from Stepper Point to Padstow; if at Hawker's Cove the pilot and the unlicensed man are entitled to one-half of such pilotage; if after the vessel has arrived at a line from Gun Point to Trebetherick, the pilot is entitled to one-fourth, and the unlicensed man three-fourths; if after the vessel has arrived at St. Saviour's Point, the unlicensed man is entitled to the whole of such pilotage.

Penzance, Cornwall. Mount's Bay. Pilotage compulsory.

Pilotage; district: From the Lizard to Cape Cornwall, and *vice versa*. Rates: From sea, and *vice versa*, to either of the roadsteads or piers in Mount's Bay, 7 feet and under, 10*s.*; 8 to 10 feet, 16*s.*; 11 feet, 24*s.*; 12 feet, 30*s.*; 13 feet, 35*s.*; 14 feet, 40*s.*; 15 feet, 45*s.*; 16 feet, 50*s.*; 17 feet, 55*s.*; 18 feet, 60*s.*; 19 feet, 67*s.*; 20 feet, 77*s.*; 21 feet, 87*s.*; 22 feet 97*s.* From all roadsteads, and *vice versa*, to either of the different piers in Mount's Bay, 1*s.* 6*d.* per foot draft. Coasting vessels one-half the serates. Boats and vessels boarded by pilots at a distance southward of the bay. For putting a pilot on board without a line drawn from the Lizard to Tol Peden Penwith, £2 2*s.*; for putting a pilot on board within a line drawn from the Lizard to Tol Peden Penwith, and without a line drawn from Carn Drew to Pengwinion Point, £1 1*s.*; for putting a pilot on board within a line drawn from Carn Drew to Pengwinion Point, and without a line drawn from St. Clement's Isle to Trewanas Head, 10*s.*; and within those limits, inwards only, 5*s.* No master of a vessel is compelled to take a pilot for Mount's Bay and Penzance within this district until he comes within a line drawn from St. Clement's Isle to Trewanas Head.

Perth, Perthshire. On the Tay, 22 miles above Dundee, and 29 miles from the sea. Pilotage not compulsory. (*See* Dundee.)

Peterhead, Aberdeenshire. Pilotage not compulsory.

Pilotage; rates:

	£	s.	d.
Vessels under 40 tons	0	8	6
40 tons and under 50 tons	0	11	0
50 " " 60 "	0	13	0
60 " " 70 "	0	15	0
70 " " 80 "	0	17	0
80 " " 90 "	0	19	0
90 " " 100 "	1	1	0
100 " " 120 "	1	3	6
120 tons and under 160 tons	1	7	0
160 " " 200 "	1	14	0
200 " " 250 "	1	18	0
250 " " 300 "	2	6	0
300 " " 350 "	2	12	0
350 " " 400 "	2	16	0
400 " " 500 "	3	7	0
500 " upwards	4	4	0

A reduction of one-third of the amount of these charges is made therefrom in the case of vessels entering the harbor for safety or convenience.

Plymouth, Devonshire. Pilotage not compulsory.

Pilotage; district: To the westward as far as Looe, and eastward as far as the Start.

Rates (per foot draft): From an imaginary line drawn from Mewstone to Penlee Point:

	To Cawsand Bay and *vice versa*.		To Plymouth Sound and *vice versa*.		To Cattewater and *vice versa*.		To Sutton Pool and *vice versa*.		To Hamoaze and *vice versa*.		To Mill Bay and *vice versa*.		To Yealm River and *vice versa*.		To Salcombe and *vice versa*.	
	14 feet and upwards.	Under 14 feet.	14 feet and upwards.	Under 14 feet.	14 feet and upwards.	Under 14 feet.	14 feet and upwards.	Under 14 feet.	14 feet and upwards.	Under 14 feet.	14 feet and upwards.	Under 14 feet.	14 feet and upwards.	Under 14 feet.	14 feet and upwards.	Under 14 feet.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
A	2 6	2 0	3 0	2 6	5 0	4 0	5 0	4 0	5 0	4 0	5 0	4 0	4 0	3 0	4 0	3 0
B	2 0	1 6	2 6	2 0	4 0	3 0	4 0	3 0	4 0	3 0	4 0	3 0	3 0	2 6	3 0	2 6
C	.....	.....	3 6	2 6	3 6	2 6	3 6	2 6	3 6	2 6	3 6	2 6	.....	.....	.....	.....
D	.....	.....	.....	.....	3 6	2 6	3 6	2 6	3 6	2 6	3 6	2 6	.....	.....	.....	.....
E	.....	.....	.....	.....	.....	.....	1 6	1 6	3 6	2 6	3 6	2 6	.....	.....	.....	.....
F	.....	.....	.....	.....	.....	.....	.....	.....	3 6	2 6	3 6	2 6	.....	.....	.....	.....
G	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	3 6	2 6	.....	.....	.....	.....

A. On ships boarded or quitted without those limits. B. On ships boarded or quitted within those limits. C. Cawsand Bay. D. Plymouth Sound. E. Cattewater. F. Sutton Pool. G. Hamoaze.

All ships drawings less than 8 feet pay for 8 feet. Ships returning by stress of weather, contrary winds, or on account of accident, into ports within the Plymouth district, are subject to half the common pilotage. Distance pilotage, if without a line drawn from the Ram Head to the Mewstone:

	Above one and not exceeding two leagues.	Three leagues.	Four leagues.	Five leagues.	Six leagues.	Seven leagues.	Eight leagues.	Nine leagues.	Ten leagues.
	s.	*s.*	*s.*	*s.*	*s.*	*s.*	*s.*	*s.*	*s.*
For vessels of less than 15 feet draft.....	28	42	49	56	63	69	74	79	84
For vessels of 15 feet water and above.....	42	63	70	77	84	95	105	116	126

Should any ship above 17 feet draft be boarded while the Western Land is open off the Ram Head, by one of the second-class pilots, and he runs the ship as far in as either of the buoys on the Panther or Shovel, and is there superseded by one of the first class, he is entitled to one-third of the pilotage. If a master retain or employ a pilot whilst at anchor, the rate for the lay-days is 7*s.* 6*d.* a day.

Poole, Dorset. Pilotage not compulsory.

Pilotage; district: From Christ Church, inclusive, to St. Alban's Head, and *vice versa*. Rates per foot: From Studland Bay to Poole Quay, 3*s.*; from Studland Bay to Brownsea, 2*s.*; from St. Alban's or Christ Church Heads to Poole Quay, 4*s.*, and in proportion from those heads to Brownsea, etc.; from any place between either of these heads and Studland Bay to Poole Quay, 3*s.* 6*d.*, and in proportion to Brownsea, etc.; for any vessel not bound to Poole, for a pilot from sea into Studland Bay to stop there for tide or for shelter, 1*s.* 6*d.*; any vessel outwards to pay the same rates as above. For any pilot having charge of any ship or vessel lying in Studland Bay, who may remain on board, 7*s.* 6*d.* a day for the time he is required to remain, provided such ship or vessel be not afterwards piloted by him into Poole Harbor. The pilot of any vessel must, if required, provide a boat, with four men, to attend her from Stakes to the Quay, or *vice versa*, to tow her in or out, or to carry out ropes on shore or to the buoys, for which service they shall be paid 10*s.* Pilots must at all times when required lend their assistance to work any vessel to or from the Quay into or out of the harbor, for which they shall be paid as follows, viz: For working a vessel to or from the bay, 5*s.*; to or from Brownsea, 3*s.*; and to or from Stakes, 2*s.* a man, and the same for the boat they attend in; and 4*s.* a day each man if detained on board after the first day. Coasting vessels pay two-thirds of the above rates.

Portsmouth, Hampshire. Pilotage compulsory.

Pilotage; district: From the Owers, within and without the Isle of Wight, to Peverell, and *vice versa*, and to and from and into and out of all ports and places within

those limits, excepting those within the Poole and Southampton districts. Rates per foot draft:

	17 feet and under.	Above 17 and not exceeding 20 feet.	Upwards of 20 feet.
	s. d.	s. d.	s. d.
From beyond 1 mile from Needles Point, and *vice versa*, to Portsmouth Harbor above the Swing Bridge	7 6	9 6	11 6
From beyond 1 mile from Needles Point, and *vice versa*, to Portsmouth Harbor, below the Swing Bridge, or Langston, or Lymington harbors	7 0	9 0	11 0
From beyond 1 mile from Needles Point, and *vice versa*, to Spithead, Motherbank, Stoke's Bay, Cowes Roads, or to a line drawn from the Lepe Buoy to Lee Point	5 6	6 6	7 6
From beyond 1 mile from Needles Point, and *vice versa*, to Yarmouth or Lymington Roads, for ships anchoring or remaining thereat	2 6	3 0	3 6
From beyond 1 mile from Needles Point, and *vice versa*, to St. Helen's	6 6	7 6	8 6
From within 1 mile of the Needles Point, and *vice versa*, to Portsmouth Harbor, above the Swing Bridge	6 6	7 6	9 6
From within 1 mile of the Needles Point, and *vice versa*, to Portsmouth Harbor, below the Swing Bridge, or Langston, or Lymington Harbors	6 0	7 0	9 0
From within 1 mile of the Needles Point, and *vice versa*, to Spithead and Motherbank, Stoke's Bay, Cowes Roads, or to a line drawn from the Lepe Buoy to Lee Point	4 6	5 0	6 6
From within 1 mile of the Needles Point, and *vice versa*, to Yarmouth or Lymington Roads, for ships anchoring and remaining thereat	2 0	2 6	3 0
From within 1 mile of the Needles Point, and *vice versa*, to St. Helen's	5 6	5 6	7 6
From between the Needles Point and Hurst Castle, and *vice versa*, to Portsmouth Harbor, above the Swing Bridge	4 6	6 6	6 6
From between the Needles Point and Hurst Castle, and *vice versa*, to Portsmouth Harbor, below the Swing Bridge, or Langston, or Lymington Harbors	4 0	5 0	6 0
From between the Needles Point and Hurst Castle, and *vice versa*, to Spithead, Motherbank, Stoke's Bay, Cowes Roads, or to a line drawn from the Lepe Buoy to Lee Point	2 6	3 6	4 6
From between the Needles Point and Hurst Castle, and *vice versa*, to Yarmouth or Lymington Roads, for ships, anchoring and remaining thereat	1 0	1 6	2 0
From between Needles Point and Hurst Castle, and *vice versa*, to St. Helen's	3 6	4 6	5 6
From between Hurst Castle and Newton Creek, and *vice versa*, to Portsmouth Harbor, above the Swing Bridge	3 6	4 6	5 6
From between Hurst Castle and Newton Creek, and *vice versa*, to Portsmouth Harbor, below the Swing Bridge, or Langston, or Lymington Harbors	3 0	4 0	5 0
From between Hurst Castle and Newton Creek, and *vice versa*, to Spithead, Motherbank, Stoke's Bay, Cowes Roads, or to a line drawn from the Lepe Buoy to Lee Point	2 6	3 0	3 6
From between Hurst Castle and Newton Creek, and *vice versa*, to St. Helen's	2 6	3 6	4 6
From beyond 1 mile seaward of Bembridge Ledge, and *vice versa*, to Portsmouth Harbor, above the Swing Bridge	7 6	9 6	11 6
From beyond 1 mile seaward of Bembridge Ledge, and *vice versa*, to Portsmouth Harbor, below the Swing Bridge, or Langston, or Lymington Harbors	7 0	9 0	11 0
From beyond 1 mile seaward of Bembridge Ledge, and *vice versa*, to Spithead, Motherbank, Stoke's Bay, Cowes Roads, or to a line drawn from the Lepe Buoy to Lepe Point	5 6	6 6	7 6
From beyond 1 mile seaward of Bembridge Ledge, and *vice versa*, to St. Helen's Roads, for ships anchoring and remaining thereat	2 6	3 0	3 6
From beyond 1 mile seaward of Bembridge Ledge, and *vice versa*, to Yarmouth or Lymington Roads	6 6	7 6	8 6
From within 1 mile seaward of the Bembridge Ledge Buoy, and *vice versa*, to Portsmouth Harbor, above the Swing Bridge	6 6	7 6	9 6
From within 1 mile seaward of the Bembridge Ledge Buoy, and *vice versa*, to Portsmouth Harbor, below the Swing Bridge, or Langston, or Lymington Harbors	6 0	7 0	9 0
From within 1 mile seaward of the Bembridge Ledge Buoy, and *vice versa*, to Spithead, Motherbank, Stoke's Bay, Cowes Roads, or to a line drawn from the Lepe Buoy to Lee Point	4 6	5 6	6 6
From within 1 mile seaward of the Bembridge Ledge Buoy, and *vice versa*, to St. Helen's Roads, for ships anchoring and remaining thereat	2 0	2 6	3 0
From within 1 mile seaward of the Bembridge Ledge Buoy, and *vice versa*, to Yarmouth or Lymington Roads	5 6	6 6	7 6
From Spithead, Motherbank, Stoke's Bay, or Cowes Roads, and *vice versa*, to Portsmouth Harbor, above the Swing Bridge	2 6	3 6	4 6
From Spithead, Motherbank, Stoke's Bay, or Cowes Roads, and *vice versa*, to Portsmouth Harbor, below the Swing Bridge, or Langston, or Lymington Harbors	2 0	3 0	4 0
From Spithead, Motherbank, Stoke's Bay, or Cowes Roads, and *vice versa*, to St. Helen's, or to a line drawn from Lepe Buoy to Lee Point	1 6	1 6	1 6
From Cowes Roads, and *vice versa*, to Cowes Harbor	1 6	1 6	1 6

Ships returning by stress of weather, contrary winds, or on account of accident, into ports within the Isle of Wight district, pay one-half these rates. A pilot taken on board a vessel outside the Needles Point or Nab Light is entitled to the following additional pay, viz: Under 500 tons, £1; 500 tons and upwards, £2. The pilots of the Isle of Wight district have authority to supersede such of the London or Cinque Port pilots as are licensed for the charge of vessels to the Isle of Wight when they arrive near the channels leading into the ports and harbors within the Isle of Wight; but no master of a vessel is compelled to take an Isle of Wight pilot until at St. Helen's, if he be piloted thereto by a duly licensed London or Cinque Ports pilot. The following rates are chargeable for transporting vessels from one berth to another in Portsmouth or Cowes Harbors, but no pilot shall be entitled to claim these in respect of any vessel which he has brought into harbor unless he can prove to the subcommissioners that the vessel could not be placed in her berth for discharging during the tide in which she came in, viz: Not exceeding 200 tons, 10*s.* 6*d.*; exceeding 200 and not exceeding 300 tons, 15*s.*; exceeding 300 tons. 21*s.* If a master choose to retain or employ a pilot whilst at anchor, the rate for the lay day is 7*s.* 6*d.*, not including the day coming in or going out.

Preston, Lancashire. Quays about 17 miles from outer bar. Pilotage compulsory.

Ramsgate, Kent. Pilotage not compulsory. (*See* London rates.)

Rochester, Kent. Pilotage not compulsory.

Runcorn, on the Mersey. Pilotage same as Liverpool.

Scarborough, Yorkshire. Pilotage not compulsory; distrinct not defined; no fixed rate, but usual charge 10*s.* to £1 10*s.* according to size.

Scilly. A group of islands 24 miles west, southwest of Land's End. Pilotage not compulsory.

Pilotage; district: To and from, into and out of, all ports and places in and about the islands of Scilly. Rates: On vessels from or bound to foreign ports—

	£	s.	d.
60 tons and under	2	2	0
70 tons	2	4	6
80 tons	2	7	0
90 tons	2	9	6
100 tons	2	12	6
110 tons	2	15	10
120 tons	2	19	2
130 tons	3	2	6
140 tons	3	5	10
150 tons	3	9	2
160 tons	3	12	6
170 tons	3	15	10
180 tons	3	19	2
190 tons	4	2	6
200 tons	4	4	0
210 tons	4	7	4
220 tons	4	10	8
230 tons	4	14	0
240 tons	4	17	4
250 tons	5	0	8
260 tons	5	4	0
270 tons	5	7	4
280 tons	5	10	8
290 tons	5	14	0
300 tons	5	15	6
310 tons	5	16	6
320 tons	5	17	6
330 tons	5	18	6
340 tons	5	19	6
350 tons	6	0	6
360 tons	6	1	6
370 tons	6	2	6
380 tons	6	3	6
390 tons	6	4	6
400 tons	6	6	0
410 tons	6	10	0
420 tons	6	14	0
430 tons	6	18	0
440 tons	7	2	0
450 tons	7	6	0
460 tons	7	10	0
470 tons	7	14	0
480 tons	7	18	0
490 tons	8	2	0
500 tons	8	6	0
510 tons	8	9	6
520 tons	8	12	0
530 tons	8	15	6
540 tons	8	18	0
550 tons	9	1	0
560 tons	9	4	0
570 tons	9	7	0
580 tons	9	10	0
590 tons	9	13	0
600 tons	9	16	0
610 tons	9	18	6
620 tons	10	1	0
630 tons	10	3	6
640 tons	10	6	0
650 tons	10	8	6
660 tons	10	11	0
670 tons	10	13	6
680 tons	10	16	0
690 tons	10	18	6
700 tons	11	1	0
710 tons	11	3	0
720 tons	11	5	0
730 tons	11	7	0
740 tons	11	9	0
750 tons	11	11	0
760 tons	11	13	0
770 tons	11	15	0
780 tons	11	17	0
790 tons	11	19	0
800 tons	12	1	0
810 tons	12	2	6
820 tons	12	4	0
830 tons	12	5	6
840 tons	12	7	0
850 tons	12	8	6
860 tons	12	10	0
870 tons	12	11	6
880 tons	12	13	0
890 tons	12	14	6
900 tons	12	16	0

and an additional 1s. for every 10 tons above 900. On coasting vessels—

	£	s.	d.		£	s.	d.
60 tons and under	1	0	0	190 tons	2	11	0
70 tons	1	2	6	200 tons	2	12	6
80 tons	1	5	0	210 tons	2	15	10
90 tons	1	7	6	220 tons	2	19	2
100 tons	1	10	0	230 tons	3	2	6
110 tons	1	12	6	240 tons	3	5	10
120 tons	1	15	0	250 tons	3	9	2
130 tons	1	17	6	260 tons	3	12	6
140 tons	2	0	0	270 tons	3	15	10
150 tons	2	2	6	280 tons	3	19	2
160 tons	2	5	0	290 tons	4	2	6
170 tons	2	7	6	300 tons	4	4	0
180 tons	2	10	0				

and in proportion for a greater tonnage. No charge for less than 5 tons. For 5 tons and upward, the next rate to be charged. For removing a vessel within the limits of the port, 10s. 6d. For a pilot remaining on board a vessel by request, 10s. 6d. for every twenty-four hours, or any part thereof. The above rates are for the whole service, in and out, but any pilot employed to conduct a vessel inward only is entitled to two-thirds of the said rates, the vessel having been properly moored in one of the regular harbors.

Shields, River Tyne. (*See* Newcastle).

Shoreham, Sussex. Pilotage compulsory for sailing vessels.

Pilotage; district: From Brighthelmstone (exclusive) westward to the Owers, and from the Owers eastward to Brighthelmstone (exclusive). Rates per foot: Inward and outward, harbor pilotage, 8 feet draft and under, 1s. 6d.; above 8 feet and not excluding 10 feet, 1s. 9d.; above 10 feet, 3s. Vessels inward bound, not boarded until they are within the bar at the entrance of the harbor, are charged only one-fourth of these rates. Ships going into Shoreham and unloading near the harbor mouth are subject to half pilotage only; but if such ships are afterwards removed by pilots to any dock or wharf near the town, for the purpose of taking in a cargo, the full pilotage is to be paid.

Silloth, Cumberland, on the eastern side of Solway Firth. Pilotage not compulsory.

Pilotage; district: In the English Channel of the Solway Firth between the anchorage ground off the harbor of Maryport and the entrance of Port Silloth, and Annan Water Foot, from the Firth. Rates by agreement.

Skibbereen, County Cork, Ireland, situated on the Ilen. Latitude 51° 34′ N.; longitude 9° 15′ W. No harbor Auth. Pilotage not compulsory.

Sligo, Sligo, on the Garvogue, 5 miles from the outer roads. Pilotage compulsory.

Pilotage; district: From Wheaten Rock to quays. Rates inward:

	Apr. 1 to Sept. 30.	Oct. 1 to Mar. 31.
	s. d.	s. d.
Wheaton Rock to Oyster Island	1 6	2 0
Raughley Point to Oyster Island	1 2	1 6
Outside the Bar to Oyster Island	0 10	1 1
Sligo side the bar to Oyster Island	0 4	0 5
Island to the quay	1 0	1 0
Island to the pool	0 6	0 6
Wheaton Rock to Bungar	1 3	1 9
Bungar to Quay	1 3	1 3

Outward: From any place to sea, April 1 to September 30, 2s.; October 1 to March 31, 2s. 6d. From April 1 to September 30, Wheaton Rock to Sligo, 2s. 6d. per foot inward; Sligo to sea, 2s. per foot outward. From October 1 to March 31, Wheaton Rock to Sligo, 3s. per foot inwards; Sligo to sea, 2s. 6d. per foot outward.

Southhampton, Hampshire. On Southampton Water. Pilotage compulsory.

Pilotage; district. From a line drawn from Lepe Buoy to Lee Point, to all ports and places within the Southampton Water, and from all ports and places within the Southampton Water to sea. Rates per foot: From any place within a line drawn from Lepe Buoy to Lee Point to Southampton, Hamble, or Bursledon: 17 feet draft, and under, 1s. 6d.; above 17 feet and not exceeding 20 feet, 2s. 6d.; above 20 feet, 3s. 6d.; from any place within a line drawn from Lepe Buoy to Lee Point to Eling, Redbridge, Northam, or Chapel, 1s. per foot more than the above rates. If a vessel inward bound be not boarded until she is east northeast of Calshot Castle, the pilot is entitled to one-third only of the rate. From Southampton to sea: 17 feet draft and under, 6s.; above 17 feet and not exceeding 20 feet, 7s.; above 20 feet, 9s. per foot. For

removing vessels from one place to another within the Southampton Water, the following rates, viz: From Southampton to Redbridge, Eling, Northam, or Chapel and *vice versa*, 1*s.*; from Southampton to Hamble, Bursledon, Leap, or Buckler's Hard or Beaulieu and *vice versa*, 1*s.* 6*d.* per foot; and for any intermediate distance a proportionate part of the above rates. If a master choose to retain or employ a pilot while at anchor the charge for the lay days is 7*s.* 6*d.* per day.

Stockton-on-Tees, Durham. (*See also* Middlesboro.) Pilotage not compulsory.

Stornoway, Island of Lewis Hebrides. Pilotage not compulsory; district not defined; rates by agreement.

Stranraer, Wigton. Pilotage not compulsory. Rates from roadstead to harbor, and *vice versa*, 5*s.* per vessel.

Sunderland, Durham. At the mouth of the river Wear. Compulsory.

Pilotage; district: From Souter Point to Ryhope Dene, and the whole port and harbor of Sunderland. Rates: For all vessels into or out of Sunderland, 1*s.* 6*d.* foot. In addition to these pilotage dues, vessels above 350 tons register pay ¼*d.* ton on the excess of registered tonnage over and above that number of tons.

Swansea, Glamorgan. Pilotage not compulsory outwards, but compulsory inwards.

Pilotage; district: Swansea Harbor, etc., and so much of the Bristol Channel as is included within the following limits, viz: "North of the line of the Nash Lights in one," and east of an imaginary line running north and south of a point 4 miles westward of the Helwick light vessel, near Worms Head. Compulsory inwards, optional outward. Rates:

	£	s.	d.
If under 60 tons	0	6	0
60 tons and under 100 tons	0	9	0
100 " " 150 "	0	12	0
150 " " 200 "	0	15	0
200 " " 250 "	0	18	0
250 " " 300 "	1	1	0
300 " " 400 "	1	5	0
400 " " 500 "	1	10	0
500 " " 600 "	1	15	0
600 " " 700 "	2	0	0
700 tons and under 800 tons	2	5	0
800 " " 900 "	2	10	0
900 " " 1,000 "	2	15	0
1,000 " " 1,100 "	3	0	0
1,200 " " 1,300 "	3	10	0
1,300 " " 1,400 "	3	15	0
1,400 " " 1,500 "	4	0	0
1,500 " " 1,600 "	4	5	0
1,600 " " 1,700 "	4	10	0
1,700 and upwards	4	15	0

And 5*s.* for every 100 tons above 1,700.

Pilots will take vessels over 500 tons register, outward bound, clear of the Green Grounds, or to the Mumbles roads, and the above charge includes landing the pilot in all cases. One-half the above rates only to be paid and payable to every pilot navigating or assisting any vessel (not entering Swansea Harbor) within any part of Swansea Bay, or within the limits of the pilotage ground. Vessels of 200 tons and upwards, if boarded beyond the following bearings, shall pay additional pilotage as under:

	West of Pwlldy Point, bearing NNE.			West of Oxwich Point, bearing NNE.; south of Sker Buoy, bearing ENE. or WSW.			West of Worms Head, bearing NNE.		
	£	s.	d.	£	s.	d.	£	s.	d.
200 and under 300 tons	0	4	0	0	5	0	0	6	0
300 " 400 "	0	5	6	0	6	7	0	10	0
400 " 500 "	0	7	6	0	10	0	0	15	0
500 " 600 "	0	10	0	0	12	6	1	0	0
600 " 700 "	0	12	6	0	15	0	1	5	0
700 tons upwards	0	15	0	0	18	6	1	10	0

For vessels under 500 registered tons to the Mumbles roads, or clear of the Green Grounds, in addition to the outward pilotage rates, the following additional rates, including landing: Under 100 tons, 4*s.*; 100 and under 200, 5*s.* 6*d*; 200 and under 300, 7*s.* 6*d.*; 300 and under 400, 9*s.* 6*d.*; 400 and under 500, 11*s.* For vessels to the eastern or western limits in addition to the outward rates, the following additional rates, including landing: 300 and under 500 tons, £3; 500 and under 700 tons, £4; 700 and under 900 tons, £5; 900 and upward, £6. For moving vessels within the harbor; Under 100 tons, 2*s.* 6*d.*; 100 and under 200 tons, 3*s.* 6*d.*; 200 and under 400 tons, 5*s.*; 400 and under 500 tons, 7*s.* 6*d.*; 500 and under 600 tons, 10*s.*; 600 tons and upward, 12*s.* This rule does not apply within either dock.

Teignmouth, Devonshire. At the mouth of the River Teign. Pilotage not compulsory.

Pilotage; district: From Lyme to Bob's Nose, and *vice versa*. Rates per foot:

Vessels in and out over Teignmouth Bar.	Colliers and coasting vessels.				Vessels from or to foreign ports.			
	In.	Out.	But not to exceed for each vessel.		In.	Out.	But not to exceed for each vessel.	
			In.	Out.			In.	Out.
	s. d.	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*	*s. d.*
Not exceeding registered tons	1 0	0 6	5 0	2 6	1 3	0 8	6 0	3 0
Ex. 20 and not ex. 30 tons.....	1 0	0 6	7 6	3 9	1 3	0 8	8 6	4 3
" 30 " 40	1 2	0 7	10 0	5 0	1 5	0 9	12 0	6 0
" 40 " 50	1 4	0 8	13 0	6 6	1 7	0 10	16 0	8 0
" 50 " 60	1 6	0 9	16 0	8 0	1 10	0 11	20 0	10 0
" 60 " 80	1 9	0 11	(*)	(*)	2 1	1 1	(*)	(*)
" 80 " 100	2 2	1 1	(*)	(*)	2 6	1 3	(*)	(*)
" 100 " 125	2 7	1 4	(*)	(*)	2 11	1 6	(*)	(*)
" 125 " 150	3 0	1 6	(*)	(*)	3 4	1 8	(*)	(*)
" 150 " 175	3 5	1 9	(*)	(*)	3 9	1 11	(*)	(*)
" 175 " 200	3 10	1 11	(*)	(*)	4 2	2 1	(*)	(*)
" 200 " 225	4 2	2 1	(*)	(*)	4 6	2 3	(*)	(*)
" 225 " 250	4 6	2 3	(*)	(*)	4 10	2 5	(*)	(*)
" 250 " 300	4 10	2 5	(*)	(*)	5 4	2 8	(*)	(*)
" 300 " 350	5 4	2 8	(*)	(*)	5 10	2 11	(*)	(*)
" 350 " 400	5 10	2 11	(*)	(*)	6 4	3 2	(*)	(*)
" 400 " 450	6 3	3 2	(*)	(*)	6 9	3 5	(*)	(*)
" 450 " 500	6 7	3 4	(*)	(*)	7 1	3 7	(*)	(*)

* All by the foot draft, except as above stated, for vessels not exceeding 60 tons register.

A pilot taken on board off the *Bill of Portland*, or the *Start* (which is optional to the master), is to receive beyond the pilotage from Bob's Nose to Lyme as follows, viz: For colliers and coasters, £2 2*s.*; for ships from foreign parts, £3 3*s.*, and proportionately for intermediate distances. Pilots, if required, are to provide a boat and crew to assist over the bar, to a mooring berth or to sea, for which they shall be paid, over and above the pilotage, 2*s.* 6*d.* for each man or oar employed and 2*s.* 6*d.* for the boat.

Tralee, County Kerry. Pilotage compulsory.

Pilotage: District not defined. Rates 2*s.* per foot on coasters, and 2*s.* 6*d.* on foreigners.

Troon, Ayrshire, on the Firth of Clyde. Pilotage not compulsory.

Towage: To and from the red buoy northwest of the harbor, under 250 registered tons 2*d.*, 250 and under 500 tons 2½*d.*, 500 tons and upwards 3*d.* per ton. To the distance of the Lady Isle, either out or in, £1 each way extra. Should any vessel hoist a jack for a pilot at Lady Isle they will have one put on board, and be towed in, if required, for £1 extra. Notice should be given for tug at least 2 hours before sailing. Captains refusing to sail after the boat has been got ready by their orders will be charged 5*s.* additional, unless a satisfactory reason is given for not sailing. Vessels must use their own hawsers, or pay for the use of the harbor one, a rate of not less than 5*s.* and not higher than 10*s.*, according to the size of the vessel.

Tyne ports. Pilotage not compulsory.

Pilotage; district: The whole of the River Tyne, and extending seaward over a radius of 7 miles. Rates per foot:

	April 1 to Sept. 30.	Oct. 1 to March 31.
	s. d.	*s. d.*
Sea to dock or from dock to sea.....	1 3	1 6
Sea to Bill Point or Bill Point to sea.....	2 3	2 6
Sea to east side of Newcastle bridge or the reverse.....	2 9	3 0
Sea to suspension bridge at Scotswood or the reverse	3 3	3 6
Dock to Bill Point or Bill Point to dock.....	1 0	1 0
Dock to east side of Newcastle bridge or the reverse.....	1 6	1 6
Dock to suspension bridge at Scotswood or *vice versa*	2 0	2 0
Bill Point to east side of Newcastle bridge or *vice versa*	1 0	1 0
Bill Point to Scotswood suspension bridge or *vice versa*	1 0	1 0
East side of Newcastle bridge to Scotswood suspension bridge or *vice versa*..	1 0	1 0

Not less than 1*s.* foot to be charged for pilotage between any two stations as above. Vessels exceeding 500 tons register pay ¼*d.* per ton on the excess of tonnage above 500

* *i. e.* Vessels from or to foreign ports, whether English or otherwise.

tons for pilotage from sea to any of the docks, and ¼*d.* ton extra for pilotage to any part of the river west of any of the docks, and *vice versa*, but in no case shall this extra tonnage rate be paid between a vessel entering and leaving the port more than once inwards to the docks, once from the docks westward, once from any part of the river above the docks to the docks, and once from the docks or below the docks to sea. Vessels having lee-boards pay 5*s.* in addition to the above rates. In the case of vessels bound from or to sea from or to any of the docks, and unable from any cause to enter or proceed to sea the same tide, pilots must, if required, attend the first following available tide to dock such vessels or take them to sea, as the case may require, without any additional remuneration. For docking or transporting (not covered by the above) from tier to dock or from dock to tier, not exceeding 200 registered tons, 5*s.*; 400, 7*s.* 6*d.*; 600, 10*s.*; 800, 12*s.* 6*d.*; 1,000, 15*s.*; 1,500, 17*s.* 6*d.*; 2,000, 20*s.*; exceeding 2,000, 25*s.* In the case of vessels exceeding 400 tons, two-thirds of the above rates are charged for moving vessels from tier to tier or from tier to any dry dock within 300 yards. For pilot's attendance in harbor, when required on any vessel, when not ultimately engaged as pilot to such vessel, per day, 7*s.* 6*d.*; for attending at the launch of any vessels in the river Tyne and conducting her to her mooring in dock or otherwise, not exceeding 400 registered tons, 20*s.*; 600, 25*s.*; 800, 30*s.*; 1,000, 32*s.* 6*d.*; 1,500, 35*s.*; 2,000, 40*s.*; exceeding 2,000, 45*s.*

Waterford. Waterford. On both banks of the Suir. Pilotage not compulsory.

Pilotage; district: On the east, an imaginary straight line drawn from a point on the coast at or near Crossfarnoge Point to a point at sea 3 leagues southward of same. On the west, an imaginary straight line drawn from a point on the coast at or near Grsat Newtown Head to a point at sea one league southward of same. On the south, an imaginary straight line drawn from the seaward extremity of the above eastern boundary line to the seaward extremity of the western boundary line. On the north, an imaginary line drawn from Granagh Castle to Bilberry Rock, about one mile above Waterford bridge. Rates:

INWARD.

Pilotage station—	To above Credan Head, and not further than Passage.	To Cheek Point and Glasshouse Reach, and no further.	Above Glasshouse Reach and up to Waterford.
	£ s. d.	£ s. d.	£ s. d.
No. 1.—For piloting any vessel from any part of this station	*1½	*2½	*3½
No. 2.—For piloting any vessel from any part of this station	*1½	*2	*3
Maximum—Provided always that no vessel, of whatever tonnage, shall be charged altogether more (inward) than	7 10 0	9 18 4	15 0 0

OUTWARD.

From what point.	To Passage.	To any part of Pilotage Station No. 1.
	£ s. d.	£ s. d.
From Waterford	*1½	*2½
From Waterford, if ballasted by ballast office	*1½	*2½
From Cheek Point	----------	*1
From Passage	----------	*1
Maximum.—Provided always that no vessel, of whatever tonnage, shall be charged altogether more (outwards) than—		
From Waterford	4 10 0	7 10 0
From Waterford, if ballasted by ballast office	3 10 0	6 10 0
From Cheek Point	----------	3 0 0
From Passage	----------	3 0 0

* Per ton.

Westport, Mayo. Pilotage not compulsory.

Pilotage; district: From harbor to Inishgort light-house. Rates for every vessel entering or leaving:

			£	s.	d.				£	s.	d.
30 and under	40	registered tons	0	8	0	150 and under	160	registered tons	1	16	0
40 "	50	"	0	10	0	160 "	175	"	1	18	3
50 "	60	"	0	11	6	175 "	200	"	2	0	6
60 "	70	"	0	15	9	200 "	225	"	2	2	9
70 "	80	"	0	18	0	225 "	250	"	2	5	0
80 "	90	"	1	0	3	250 "	275	"	2	7	3
90 "	100	"	1	2	6	275 "	300	"	2	9	6
100 "	110	"	1	4	9	300 "	325	"	2	11	9
110 "	120	"	1	7	0	325 "	350	"	2	14	0
120 "	130	"	1	9	3	350 "	375	"	2	16	3
130 "	140	"	1	11	6	375 "	400	"	2	18	6
140 "	150	"	1	13	9	400 tons and upwards proportionate rates.					

Wexford, county Wexford. Four miles from the entrance to the harbor, 64 miles southwest from Dublin. Pilotage not compulsory.

Pilotage; district: The area within an imaginary line drawn straight from Blackwater Head to the northern end of the Long Bank, thence along the western edge of said bank to its southern end, and thence straight to Greenore Point. Rates per registered ton: Every vessel entering district, and discharging or loading any cargo, or without discharging any cargo, taking in any additional cargo in the harbor or in Rosslare, and then going out of the said district, inward and outward together, 5*d*. Entering district, and discharging any cargo in the harbor or Rosslare, but not taking in any cargo, inward, 4*d*. Going out of district with cargo, but not having entered with cargo, outward, 4*d*. Entering or going out of district in ballast, not having paid any of the foregoing rates, for inward or outward, 1*d*. Coming within district by reason of stress of weather or other cause, but not discharging or receiving any cargo within such limits, inward or outward, 2*d*. per registered ton. And in addition to the above rates: From or to any point outside district, for every vessel not exceeding 100 registered tons, £1; for every vessel exceeding 100 registered tons, and not exceeding 200 registered tons, £2; for every vessel exceeding 200 registered tons, £2 for the first 200 registered tons, and £2 additional for every 100 registered tons beyond the first 200 registered tons.

Weymouth, Dorset. Pilotage not compulsory.

Pilotage; district: From St. Alban's Head to Lyme, and *vice versa*. Rates per foot: Inwards or outwards. From a line drawn from Lulworth to the outer part of the Race or Shambles, into Weymouth or Portland Roads or Bay, from Weymouth or Portland Roads or Bay into Weymouth Harbor, from sea into Lyme Harbor, under 8 feet 2*s*., and 3*d*. for each additional foot. The pilot must, if required, provide a boat with four men to attend her from the Roads to the quay, or *vice versa*, to tow her in or out, or carry ropes on shore, or to the posts, etc., as may be necessary, for which each man is to be paid 4*s*. per tide; the owner of the boat to be paid the same as a man. A pilot taken on board at sea shall be entitled to the following additional pay: From St. Alban's Head or Bill of Portland, to off Bridport or Lyme £2 2*s*.; if 3 leagues from the limits of Weymouth, Bridport, or Lyme, £3 3*s*.; if 6 leagues from the limits of Weymouth, Bridport, or Lyme, £4 4*s*.; if 10 leagues from the limits of Weymouth, Bridport, or Lyme, £6 6*s*.

Whitby, Yorkshire. On the Esk. Pilotage not compulsory.

Pilotage; district undefined. Rates per foot: Whitby, from April 1 to October 1, 1*s*. 3*d*.; from October 1 to April 1, 1*s*. 6*d*. Seaham, ditto; Blyth, ditto; Amble, ditto; Alnmouth, ditto; North Sunderland, ditto; Holy Island, ditto.

Whitehaven, Cumberland. Pilotage not compulsory.

No licensed pilots. Rates as per agreement. Usual charge from 15*s*. to £3.

Wick and Pultney, Caithness. Pilotage not compulsory.

Pilotage; district: Within a line drawn from the north head to the south head of Wick Bay. Rates: For every vessel above 20 tons entering and leaving harbor, 4*d*. per registered ton; for each tide's work within the harbor, 7*s*. 6*d*.; for laying out kedge or warp to assist vessels, 5*s*. Outside the harbor limits: For one tide on board, 5*s*.; for any period from twelve to twenty-four hours, 10*s*.; if detained on board thirty-six hours, 20*s*.; if two days or a week on board, not more than 30*s*.; if obliged to bear up for shelter to any of the adjacent harbors, not more than 40*s*. Vessels which have sailed from the harbor and put back by stress of weather, or from any other cause, without having accomplished their voyage, are not liable for additional rates.

Wigtown, Wigtown. Pilotage not compulsory; district not defined; rates as per agreement.

Wisbech, Isle of Ely. On the river Nene. Pilotage compulsory.

Pilotage; district not defined. Rates: Vessels, laden or light, between the Lower Roads at sea and the Cross Keys Bridge, or from or to any intermediate place (barges and lighters belonging to Wisbech excepted) 1*s*. 6*d*. per foot. Inwards and outwards:

All vessels drawing 12 feet and upwards, whether inwards, or outwards 1*s.* 9*d.* per foot. If the master or commander of any ship or vessel (except ships or vessels delivering at or loading from the Eye) requires a pilot to go or continue on board beyond the Lower Roads or above the Cross Keys Bridge, he shall pay a reasonable compensation for the extra pilotage.

Workington, Cumberland. On the Derwent. Pilotage not compulsory.

Pilotage; district (*see* Whitehaven): Rates 1*s.* 6*d.* to 5*s.* according to size.

Yarmouth, Great, Norfolk. Pilotage compulsory.

Pilotage; district: From Yarmouth to and from the Dudgeon light-vessel, and from Yarmouth to and from Orfordness; thence across the Kentish Knock to and from the Downs. Rates:

From what point.	For vessels not exceeding 11 feet draft.	For vessels exceeding 11 feet and not exceeding 14 feet.	For vessels exceeding 14 feet.
	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
From the Dudgeon Light, its parallel of latitude, or the northward thereof, to Orfordness*	5 0 0	6 5 0	7 10 0
From Smith's Knowl, Yarmouth, or Lowestoft, to Orfordness*	1 5 0	2 10 0	3 15 0
From Southwold to Orfordness*	0 17 6	1 5 0	1 17 6
From the Dudgeon Light, its parallel of latitude, or the northward thereof, to Yarmouth Roads, either within or without the Sands	2 10 0	3 12 0	6 0 0
From the Dudgeon Light, its parallel of latitude, or the northward thereof, to Downs	10 10 0	12 0 0	15 15 0
From Smith's Knowl, Yarmouth, or Lowestoft, to Downs	8 8 0	10 0 0	12 12 0
From Smith's Knowl, Yarmouth, or Lowestoft, to the entrance of the Gateways	1 0 0	1 10 0	2 2 0
From Orfordness to the entrance of the Gateways	1 0 0	1 10 0	2 2 0
From sea to Yarmouth Roads, through any of the channels	4*s.* per foot draft.		
From Yarmouth Roads, through any of the channels, to sea	2*s.* 6*d.* per foot draft.		

* An addition of one-fifth is chargeable on the above rates in case the pilot shall conduct the vesse to any port or place westward of the Nore Light.

No vessel to pay for less than 11 feet. Into and out of the harbor of Yarmouth, per foot: Vessels 8 feet draft and under, 1*s.* 6*d.*; above 8 feet and under 9 feet, 1*s.* 9*d.*; 9 feet and under 10 feet, 2*s.*; 10 feet and under 11 feet, 2*s.* 3*d.*; 11 feet and under 12 feet, 2*s.* 6*d.*; 12 feet and under 13 feet, 2*s.* 9*d.*; 13 feet and under 14 feet, 3*s.*; 14 feet and under 15 feet, 3*s.* 6*d.*; 15 feet and under 16 feet, 4*s.* An additional 2½ per cent. is charged upon the above rates. Vessels piloted into the harbor (100 to 250 tons) pay 5*s.*; exceeding 250 tons, 1*s.* for every 50 tons or any portion, for use of boats. Fishing vessels pay 5*s.* each into harbor.

LIGHT DUES AND LIGHT-HOUSES OF THE UNITED KINGDOM.*

Light dues are payable at all ports, except where vessel enters in emergency and does not break bulk. There is no difference between coasting English and foreign ships.

Exemptions: (1) Vessels in ballast; (2) vessels "putting into" British ports for bunker coal; (3) vessels "putting into" British ports by stress of weather, and not breaking bulk or taking in cargo; (4) foreign war vessels, or vessels of Her Majesty's navy.

Rates are charged on tonnage for "general" lights besides a rate per vessel for "local" lights. In a receipt for light dues there are two items, "general lights," "local lights."

Light-houses.†—(Part 6, merchant shipping act 1854, sections 389 to 395.) Management of light-houses subject to powers and rights lawfully enjoyed by "local authorities" and local light-houses, buoys, and beacons.

Superintendence and management of all light-houses, buoys, and beacons is vested in the following bodies, viz: in England and Wales, and Islands of Jersey, Stark, Alderney, and adjacent islands, and in

*For "light dues," see also under the head of "Tonnage and Light Dues."

†For admiralty list of light-houses in the British isles see Supplement.

Heligoland and Gibraltar, in the Trinity House, in Scotland and in the adjacent seas and islands and in the Isle of Man, in the commissioners of northern light-houses, in Ireland and the adjacent seas and islands, in the port of Dublin corporation. Incorporation of commissioners of northern light-houses, persons defined to hold office or officers; to have a common seal, and five to form a quorum; power to elect certain new members conferred.

Inspection of light-houses in Scotland and Ireland: The Trinity House, their engineers, workmen, and servants, may inspect, to view conditions or otherwise, for the purposes of this act.

Board of trade, upon complaint, may appoint persons to inspect light-houses, buoys, or beacons under the management of any of the said general light-house authorities.

Power to general light-house authorities with sanction of board of trade to control local authorities in the matter of light-houses, buoys, or beacons within the jurisdiction of such general light-house authorities.

Local authorities shall not erect any new light-house or vary character of existing light-houses or lights without sanction of general light-house authority within whose jurisdiction the same is situate.

Default of local bodies: In case of default by local bodies Her Majesty, by order in council, may transfer local light-houses to general light-house authorities.

Light dues (sections 395 to 403): Power of general light-house authorities to levy dues in respect of existing light-houses, buoys, or beacons, within their respective jurisdiction; and such dues, hereinafter called light dues, shall be payable in respect of all ships whatsoever except ships of Her Majesty's navy and ships hereby exempted from payment.

Revision of light dues: Light dues to be subject to revision by Her Majesty in council.

Alterations and regulation of dues: General light-house authorities, with the consent of Her Majesty in council, may exempt any ships or any classes of ships from the payment of light dues, and annex any terms or conditions to such exemptions—alter the times or places or modes in which light dues are payable—or may substitute any other dues or class of dues, whether by way of annual payment or otherwise, in respect of any ships or classes of ships, for the dues payable to such authority.

Publication of dues and regulations to be posted up at all customs houses in the kingdom and to be furnished to the commissioners of customs in London and to their principal officers at places of collection.

Clearance of ship to be withheld unless the receipt for light dues is produced (section 400).

Distress for light dues: Power to distrain goods, guns, tackle, etc., on board any ship and to detain until dues are paid. Power of sale given in case of goods distrained.

Light dues: To be paid over and accounted for by person appointed to collect same to general light-house authority, and the authority receiving same to keep accounts and remit to Her Majesty's paymaster-general.

Application of light dues: All light dues are to be carried to account of the mercantile marine fund, to be dealt with in manner hereafter mentioned. Construction of and dues for new light-houses (sections 404 to 415). General power to each of the general light-house authorities to erect, place, and alter new light-houses, buoys, and beacons. This power in the case of the commissioners of northern light-houses

and Dublin corporation to be subject to approval of Trinity House, with appeal to the board of trade.

Mode of obtaining sanction of board of trade: Trinity House to inform light-house authority of decision of board of trade. Power to Trinity House, with sanction of board of trade, to compel execution of works by commissioners and corporation. How sanction of board of trade is to be obtained.

Dues for new light-houses: Her Majesty in council may fix dues to be taken for new light-houses, or may from time to time alter the amount.

Dues in channel islands: No dues to be levied without the consent of the states of the said islands, respectively. Any powers given to Trinity House in respect of light-houses, buoys, or beacons placed in Guernsey or Jersey not to be exercised without the consent of Her Majesty in council.

Surrender of local light-houses (section 413): Local light-houses may be surrendered or sold to general light-house authorities. Consent of board of trade to purchase to be obtained, and purchase money to be paid out of mercantile marine fund.

Damage to lights, buoys, or beacons: Willful or negligent injury, besides making good the damage, is subject to a penalty not exceeding £50 (section 414).

Prevention of false lights (section 415): General light-house authorities may prohibit false lights which are liable to be mistaken for a light proceeding from a light-house. Notice to be given to owner or person responsible for light to have same extinguished or screened. Penalty for disobeying £100, and power of general light-house authority to abate such lights in case of disobedience.

Light dues: Orders in council—a ship is not cleared at the custom-house without production of receipt for light dues (section 400).

Exemptions from light dues. By order of council, dated March 7, 1887, all steamships putting into or touching at British ports for the purpose of filling up with coal their permanent bunkers, in which cargo is not carried, are exempt from payment of light dues.

It is directed that as regards the payment of light dues (1) on vessels in ballast, (2) on vessels "putting into" or "calling at" British ports, as follows:

In the case of all vessels in ballast—*i. e.*, vessels starting from a British port in ballast—coal, whether in the bunkers or in the hold, is, in the absence of good and substantial ground to believe that the coal in the hold is taken for the purpose of merchandise, to be regarded as necessary motive power, and does not render the vessel liable to light dues.

In the case of vessels loaded abroad, which may "put into" any British port or roadstead and take coal on board—

If the coal so taken on board is not of a larger quantity than is sufficient, with the coal already on board, to fill up the permanent bunkers in which the cargo is never carried, the vessel is to be deemed not liable to light dues.

If, however, the coal so taken on board is of a quantity beyond the permanent bunkers, then, in the case of a vessel which did not put in in emergency, light dues are to be considered payable; but in the case of a vessel putting in in emergency there may be shipped, irrespective of bunker space or capacity and without liability to be detained for light dues, any coal which is taken on board as motive power and not as merchandise.

A vessel "in emergency" is meant as a vessel which, having started

from a foreign port fully equipped for her voyage, has by reason of stress of weather, or otherwise by exceptional circumstances, had to deviate from her course and seek a British port for the purpose of obtaining coal actually required for her safety, such vessel not breaking bulk or taking in cargo. The expression does not include a vessel which starts from a foreign port insufficiently provided with coal for her full voyage and with the intention of completing her coaling at a British port.

Foreign war vessels do not pay light dues.

TONNAGE AND LIGHT DUES OF THE UNITED KINGDOM.

The tonnage dues of the different ports vary, but are levied in each case under the sanction of the board of trade, and the rates charged are confirmed by the acts under which each harbor authority is constituted.

The general rule is that a lower rate is charged upon coasting vessels than upon those trading to or from foreign ports, and upon those in ballast than upon those laden.

No difference is made between English and foreign ships, nor are any privileges accorded to vessels of any nationality.

The following list of shipping charges is from Pearson's Nautical Almanac for 1889, transmitted by Consul Smith, of Newcastle-upon-Tyne:

SHIPPING CHARGES OF THE UNITED KINGDOM.

HARTLEPOOL.

DOCK DUES AND THE HARTLEPOOL PORT AND HARBOR COMMISSIONERS' DUES.

Tonnage rates.

OUTWARD CHARGES.

	s.	d.	s.	d.
For every ship clearing for any port or place in the United Kingdom, the Isle of Man, the White Sea, or any port between the North Cape and Gibraltar, including the Baltic, and for the British possessions in North America ..... per ton..	0	2		
Hartlepool port and harbor commissioners ..... do....	0	1	0	3
Do ..... per ship..	..	..	1	4
For every ship clearing for any port or place within the Straits of Gibraltar, or in the United States on the east coast of America, and the West Indies ..... per ton..	0	4		
Hartlepool port and harbor commissioners ..... do....	0	1	0	5
Do ..... per ship..	..	..	1	4
For every ship clearing for any other port or place than above specified ..... per ton..	0	6		
Hartlepool port and harbor commissioners ..... do....	0	1	0	7
Do ..... per ship..	..	..	1	4

INWARD CHARGES.

For every ship with a cargo from any port and place in the United Kingdom, the Isle of Man, or the Islands of Jersey and Guernsey ..... per ton..	0	2		
Hartlepool port and harbor commissioners ..... do....	0	1	0	3
Do ..... per ship..	..	..	1	4
For every ship with a cargo from any port or place in Europe between Ushant and the Naze, in Norway, except the ports in the Baltic Sea ..... per ton..	0	4		
Hartlepool port and harbor commissioners ..... do....	0	1	0	5
Do ..... per ship..	..	..	1	4
For every ship with a cargo from any port or place in the Baltic Sea, or between Ushant and the Straits of Gibraltar or between the Naze and the North Cape ..... per ton..	0	6		
Hartlepool port and harbor commissioners ..... do....	0	1	0	7
Do ..... per ship..	..	..	1	4
For every ship with a cargo from any port or place within the Straits of Gibraltar, or to the east of the North Cape, or in Madeira, the Azores, or the British possessions, and the United States on the east coast of America, north of Florida ..... per ton..	0	6		
Hartlepool port and harbor commissioners ..... do....	0	1	0	7
Do ..... per ship..	..	..	1	4
For every ship with a cargo from any other port or place ..... per ton..	1	0		
Hartlepool port and harbor commissioners ..... do....	0	1	1	1
Do ..... per ship..	..	..	1	4
For every ship entering or leaving the docks without delivering or loading any cargo or coals ..... per ton..	0	2		
Hartlepool port and harbor commissioners ..... do....	0	1	0	3
Do ..... per ship..	..	..	0	8
For every ship for refuge with a cargo or in ballast ..... per ton..	0	1		
Hartlepool port and harbor commissioners ..... do....	0	1	0	2
Do ..... per ship..	..	..	0	8

Towage, 1¾*d* per registered ton.

Discharging ballast (when unsold), 1*s.* per ton.

For the above rates any ship may remain in the docks for any time not exceeding 4 weeks from the date of its entering the docks, and after the expiration of that time a further sum of 1 penny per ton per week, or part of a week, shall be payable in respect of such ship.

Half dues charged when steamers enter for bunker coals or use of graving dock only.

SUNDERLAND.

Port dues, per registered ton, payable under the authority of the Wear navigation and Sunderland dock acts.

PORT TONNAGE DUES.

	s.	*d.*
For every vessel clearing or leaving the port or place in the United Kingdom or Isle of Man, or any port or place between the river Elbe and Brest inclusive, the registered tonnage of which vessel does not exceed 200 tons	0	1
If registered tonnage of such vessel exceed 200 tons	0	1½
For every vessel entering the port with cargo from any port or place other than those before referred to	0	3
For every vessel clearing or leaving the port with cargo for any port or place other than those before referred to	0	3
Provided that no vessel in respect of which an inward rate or duty of 3*d.* per ton shall have been paid, shall be liable to a higher outward rate of duty	0	1½
Refuge dues: For every vessel which shall enter the port of Sunderland for refuge only, and which shall depart again without taking in any fresh loading	0	1½
Light-house dues: For every vessel which shall enter the port of Sunderland, once in every voyage, not exceeding per registered ton	0	0½
Port duty on coal: For all coals and cinders shipped on board any ship, boat, keel, barge, lighter, or other vessel within the limits of the port, and exported from the port ..... per ton..	0	1½
Shipped as above, and not borne beyond the limits of the port	0	0¾

Anchorage and beaconage: 1*s.* 2*d.* per ship per voyage.

River watch, per local act, 3 Vic., passed September, 1840—1*d.* per ton, one voyage each year, inward or outward. Year commencing 1st September.

TYNE PORTS.

River dues on shipping, per registered ton, payable to the Tyne improvement commissioners.

PIER RATES.

	s.	*d.*
For every vessel that shall leave or clear outwards from the port to any other port of the United Kingdom or the Isle of Man, or to any other port on the continent of Europe, situated between the river Elbe and Brest	0	1
One moiety only of the above rate is to be paid in respect of vessels leaving or clearing outwards for any port on the coast of England, between Holy Island to the north and Flamborough Head to the south, equal to	0	0½
For every vessel that shall leave or clear outwards from the port to any other port or place	0	2
Mooring rate: For every vessel that shall receive, discharge, or deliver cargo within the limits of the port of Newcastle-on-Tyne	0	0½

RIVER TONNAGE RATE.

On every vessel with a cargo to or from any port or place in the United Kingdom or Isle of Man, or on the continent of Europe, between the river Elbe and Brest, and receiving, delivering, or discharging cargo within the port	0	1½
On any vessel with a cargo to or from any other port or place, and receiving, discharging, or delivering cargo within the port	0	3

BALLAST DUES.

Receiving and conveying ballast within the port	1	4
Ballast taken out of vessels by steam hopper barges and conveyed to sea	1	6
Commodities brought in as ballast (chalk, stones, dung, clay, and sand)	0	3
Ballast warrants, per keel of 21 tons	4	0

DUES ON VESSELS NOT BREAKING BULK.

On every vessel entering or leaving the port without receiving, delivering, or discharging cargo	0	2½

BRIDGE DUES.

Every vessel passing either way through the opening or swing bridge at Newcastle	0	2

Vessels under 100 registered tons to pay only half such duties.

HARBOR LIGHT DUES.

For every vessel entering or leaving the port under 100 tons	0	11
Above 100, but not exceeding 200 tons	1	1
200, but not exceeding 300 tons	1	3
300 tons	1	5

BUOYS AND BEACON DUES.

For every vessel entering or leaving the port under 50 tons	0 4
Above 50, but not exceeding 100 tons	0 9
100, but not exceeding 200 tons	0 11
200, but not exceeding 300 tons	1 1
300 tons	1 3

Northumberland, Albert Edward, and Tyne docks, per registered ton.

INWARD CHARGES.

For every ship with a cargo from any port or place in the United Kingdom, the Isle of Man, or the Islands of Jersey or Guernsey	0 2
For every ship with a cargo from any port or place in Europe between Ushant and the Naze in Norway, except the ports in the Baltic Sea	0 4
For every ship with a cargo from any port or place in the Baltic Sea, or between Ushant and the Straits of Gibraltar, or between the Naze and the North Cape	0 6
For every ship with a cargo from any port or place within the Straits of Gibraltar, or to the east of the North Cape, or in the Madeira, the Azores, or the British possessions and the United States, on the east coast of America, north of Florida	0 6
For every ship with a cargo from any other port or place	1 0
For every ship entering or leaving the docks without delivering or loading any cargo or coal	0 2

NOTE.—For the above rates, any ship may remain in the docks for any time not exceeding 4 weeks from the date of the ship entering the docks, and after the expiration of that time a further sum of 1*d.* per ton per week, or any part of a week, shall be payable for such ship.

OUTWARD CHARGES.

For any port in the United Kingdom, the Isle of Man, the White Sea, or any port between the North Cape and Gibraltar, including the Baltic, and for the British possessions in North America	0 2
For any port within the Straits of Gibraltar, or in the United States on the east coast of America and the West Indies	0 4
For any other port than above specified	0 6

RATES OR TOLLS ON GOODS.

For every ton of coal put on board any vessel in the dock for export, whether coastwise or foreign	0 2
Small coal, per ton	0 1
For every ton of coke, culm, or cinders put on board any vessel in the dock	0 3
For every load of timber, each load containing 50 cubic feet, received or delivered from vessel in the dock	0 3
And in case such timber shall continue in the dock for a longer period than 1 month, then for each week beyond such month	0 0½
For every ton weight of goods or merchandise of every other description received or delivered from any vessel in the dock	0 4
Each ton measurement containing 40 cubic feet	0 6

Less than 1 ton, either of weight or measurement, the same is payable.

MIDDLESBROUGH-ON-TEES.

Harbor dues per ton.

	s.	*d.*
Lights	0	1
Moorings (one way only)	0	0½
River dues coastwise, from or to British North America, or ports from White Sea to Gibraltar.	0	3
Ports in Europe beyond those limits	0	4
Ports in North America north of Florida	0	6
Ports in other parts	0	6
Outward:—In ballast or without cargo	0	1½
Refuge dues	0	1½

Lifeboat on vessels under 140 tons, 3*d.*; over 150, 6*d.*
A rebate of 12½ per cent. on the above charges.

N. E. R. Co.'s dock tonnage rates per registered ton.

OUTWARD CHARGES.

	s.	*d.*
Vessels clearing for any port in the United Kingdom, Isle of Man, White Sea, British North America, and any port between North Cape and Gibraltar, including Baltic	0	2
Do., within the Mediterranean, east coast of United States, and West Indies	0	4
Do., any other port of the world	0	6

INWARD CHARGES.

Coasting vessels from any port of the United Kingdom, Isle of Man, or Channel Islands	0 2
Foreign vessels from any port in Europe between Ushant and the Naze, except the Baltic	0 4
Do., within the Baltic, and between Ushant and Gibraltar, or the Naze and North Cape	0 6
Do., within the Straits of Gibraltar, east of North Cape, Madeira, Azores, United States from Florida northward, and British North America	0 6
Do., any other port of the world	1 0
Every ship entering and leaving dock without discharging or loading	0 2
Above rates include all charges for 4 weeks from date of entry; after that time rent per week	

River craft under 50 tons, entering or leaving dock for the purpose of lading or discharging cargo, each way	1	0
Do., above 50, for every ton over 50	0	2
Dues on coals put on board ..per ton..	0	2
Dues on coke, culm, or cinders ..do....	0	3
Dues on wood per load of 50 cubic feet ..do....	0	3
Dues on wood per load in dock over 14 days ..per week..	0	3
Dues on goods per ton in or outward ..do....	0	4
Dues on goods per ton of 40 cubic feet ..do....	0	6

Dues on horses per head, 1*s.* 6*d.*; oxen, 1*s.*; ponies, 6*d.* calves, 2*d.*; lambs, sheep, goats, and pigs, 1*d.*

DOCKING OR TRANSPORTING.

From tier or wharf to dock, or from dock to tier or wharf—	*s.*	*d.*
Vessels not exceeding 200 tons registered	5	0
Vessels not exceeding 400 tons registered	7	6
Vessels not exceeding 600 tons registered	10	0
Vessels not exceeding 800 tons registered	12	6
Vessels not exceeding 1,000 tons registered	15	0
Vessels not exceeding 1,500 tons registered	17	6
Vessels not exceeding 2,000 tons registered	20	0
Vessels exceeding 2,000 tons registered	25	0

In the case of vessels exceeding 500 tons registered, two-thirds only of above rates to be charged for moving vessels from tier or wharf to tier or wharf, or from tier or wharf to any dry dock or slipway within the distance of 300 yards.

For pilot's attendance in harbor when required on any vessels, when not ultimately engaged as pilot to such vessel, per day, 7*s.* 6*d.*

LONDON.

Thames conservancy, per registered ton.

HARBOR DUES.

	s.	*d.*
Vessels coastwise, under 45 tons, free	0	0
Vessels coastwise, corn laden, over 45 tons, free	0	0
Vessels coastwise, from or to any part of the United Kingdom	0	0¼
Vessels trading from or to any port in North Sea to North Cape, or in German Ocean, France, within Ushant, Channel Islands, or Isle of Man	0	0¼
Vessels trading from or to any port beyond North Cape and within the Baltic	0	0⅛
Vessels trading from or to any port beyond Ushant to Spain (without the Mediterranean), Azores, United States, and British North America	0	0¾
Vessels trading to or from Greenland, in Mediterranean, and all other parts of the world, per ton	0	0¾

London, St. Katherine, Royal Victoria, and Albert Docks, per registered ton.

	s.	*d.*
Vessels with transshipment goods, or laden from ports outside Europe, the Mediterranean, and the Black Seas, with liberty to reload	1	0
If discharged entire or part cargoes in docks, proceed to any continental port to deliver or take in cargo, and return to the docks to complete their loading, and additional docking and undocking rate of rent 1*d.* per week, per gross tonnge, after 4 weeks from date of entrance if discharged by crew, or 4 weeks from final discharge if discharged by the company)	0	3
Lighters, save when exempted by act, per registered ton (rent, 1*d.* per gross tonnage per week after 7 days)	0	6
Vessels loading	1	9
Sailing vessels or screw steamers entering to lie up, repair, fit machinery, or adjust compasses, for docking or undocking (rent, 1*d.* per ton per week from date of entrance) ..per ton..	0	3
Paddle steamers to lie up, refit, or adjust compasses (rent, 2*d.* per ton per week from date of entrance) ..per ton..	0	4

EXCEPTIONS.

	s.	*d.*
Vessels entering to discharge parts of cargoes, docking and undocking	0	3
Additional quantity discharged (only applies when discharged part of cargoes before entering dock, or leaving with part cargoes) ..per ton..	0	9
Vessels entering to load parts of cargoes, docking and undocking	0	3
Additional quantity taken ..per ton..	0	9
Additional, if loading guano direct from ship (only applies when partly laden, or quit dock to complete loading; rent, 1*d.* per gross ton per week, after 1 week from entrance) ..per ton..	1	0
The above rates in no instance to exceed the dues on a vessel taking in full cargo.		
Vessels entering to load guano, direct from ships, if fully laden (rent, 1*d.* per gross ton, after 14 days)	1	0
Vessels wood laden (rent 1*d.* per gross ton after 4 weeks)	1	0
Vessels coal laden, entering to discharge only for docking and undocking	0	3
Extra on every ton delivered (rent 1*d.* per gross ton after 3 days)	0	3

Vessels with cargoes from or for European and all ports in the Mediterranean and Black Seas.

Steamers with imported cargoes of all kinds, ice, wood, wine, etc., excepted.

	£	s.	d.
250 tons net register and under	2	10	0
251 tons to 300 tons, inclusive	3	0	0
301 tons to 350 tons, inclusive	3	10	0
351 tons to 400 tons, inclusive	4	0	0
401 tons to 450 tons, inclusive	4	10	0
451 tons to 500 tons, inclusive	5	0	0
501 tons to 550 tons, inclusive	5	15	0
551 tons to 600 tons, inclusive	6	10	0
601 tons to 650 tons, inclusive	7	0	0
651 tons to 700 tons, inclusive	7	12	6

And 12*s.* 6*d.* for every additional 50 tons or part thereof.
With wood goods, 1*s.* per registered ton.
Sailing ships, wholly grain laden.

100 tons net register, and under	1	1	0
101 tons to 150 tons, inclusive	2	2	0

151 tons and upwards, as above scale.
Other cargoes, 1*s.* per registered ton; from British ports the charge is only 6*d.* per registered ton.
Steamers and sailing ships with export cargoes, 9*d.* per registered ton.
Vessels both discharging and loading are charged only the higher of the two rates.

Millwall Dock.

Steamers with cargoes from Black Sea, Mediterranean, and European ports generally not loading outwards.

	£	s.	d.
250 tons net register, and under	2	10	0
251 tons to 300 tons, inclusive	3	0	0
301 tons to 350 tons, inclusive	3	10	0
351 tons to 400 tons, inclusive	4	0	0
401 tons to 450 tons, inclusive	4	10	0
451 tons to 500 tons, inclusive	5	0	0
501 tons to 550 tons, inclusive	5	15	0
551 tons to 600 tons, inclusive	6	10	0
601 tons to 650 tons, inclusive	7	0	0
651 tons to 700 tons, inclusive	7	12	6

And 12*s.* 6*d.* for every additional 50 tons or part thereof. Rent, 1*d.* per gross ton per week after 48 hours from final discharge.
Sailing ships, wholly grain laden.

100 tons net register and under	1	1	0
101 tons to 150 tons, inclusive	2	2	0

151 tons and upwards, as above scale.
Rent, 1*d.* per gross ton per week, after 48 hours from final discharge.
With other cargoes, 9*d.* per registered ton; from British ports, 6*d.* per registered ton.

Vessels loading for above ports	0	9	
Vessels from or for ports outside Europe, the Mediterranean and Black Seas	1	0	
Vessels from any ports or places entering to discharge or load parts of cargoes	0	3	
On quantity discharged or loaded	0	9	
Rent per ton per week after 7 days	0	1	
Vessels wood laden	1	0	
Rent per ton per week after 4 weeks	0	1	
Vessels coal laden, docking and undocking	0	3	

For every ton of coals discharged, 3*d.*; rent per week, 1*d.* per gross ton after 72 hours from time of entrance. If loading outward, the usual rate, according to port of destination, will be charged in lieu of the docking and undocking.

Sailing vessels or screw steamers entering to lie up or refit, for docking and undocking	0	3	
Rent per week from date of entrance	0	1	

East and West India Docks.

Tonnage dues and rent on vessels generally the same as London Docks. Exceptions:

	s.	d.
Vessels entering to lie up, repair or fit machinery	0	9
Rent per week after 28 days	0	1

Steamers charged on gross tonnage.
Vessels entering to adjust compasses:

Sailing vessels	0	4
Steamers	0	9

Vessels remaining beyond 1 week pay full rate. Rates for discharging same as London Dock.
Special rates for masting, heavy weights, etc.
Ballast office, Trinity House, Tower Hill.

BALLAST RATES.

[Per ton.]

Discharged from vessels, if clean stones or gravel	0	3	
Supplied alongside	1	1	
Supplied, including heaving through port	1	6	
Supplied, including heaving over all	1	8	
Supplied colliers lying in river or dock	1	0	
Washed ballast	2	10	
For heaving, additional	0	7	

Regent's Canal Company. Dock tonnage rates (except oils and other liquids).

[Per actual ton.]

Vessels laden with coal, for use of dock or wharf on river for 1 week, if transhipped for river (1 guinea per vessel if transhipped by company's cranes)	0	1
Vessels laden with coal, stone, for use of dock or wharf on river for 1 week	0	3
If transhipped for canal (1 guinea per vessel if transhipped by company's cranes)	0	0½
Coals, if whipped, in addition to above rate	0	3

[Per registered ton.]

Vessels from or to any part of the United Kingdom, or European port from Ushant to Elbe, for use of dock or wharf for 1 week	0	3
If cargoes transhipped for river	0	4
If cargoes transhipped for canal	0	1
Vessels from any other port for use of dock or wharf for 1 week	0	6
If cargoes transhipped for river	0	7
If cargoes transhipped for canal	0	3
If part cargo for canal, rates in proportion.		
Vessels remaining beyond a week, for second week	0	2
For third and other weeks, per week	0	1
Vessels to lie up, per week	0	6
Vessels when empty, remaining after notice to take vessel out, per day	0	6
Ballast, per lighter	10	6

Intermediate distances between London and the Mouse light-vessel.

From London Bridge—	Distance between each place.	Distance from London Bridge.
	Miles.	*Miles.*
To Thames Tunnel	1½	1½
Greenwich Hospital	3½	5
Brunswick Wharf	1½	6½
Royal Arsenal	3½	10
Barking Creek	1½	11½
Erith	5	16½
Purfleet	1½	18½
Greenhithe	3	21½
Grays	2	23½
Northfleet	1½	25½
Gravesend Town Pier	1½	26½
Cole House Point	3	29½
Mucking Creek	2½	32½
Holehaven	3½	36
Leigh Road	5½	41½
Southend	1½	43½
Nore light-vessel	4	47½
Mouse light-vessel	8½	56

Towage.—River rates as agreement.

Rates of towage to and from dry dock, for steamers and sailing vessels.

No. 1 Victoria Docks and Somes' Dry Dock; London Docks (Shadwell), and Fletcher's Dry Dock; West India Docks (Limehouse), and Deptford Green Dock.

No. 2 Victoria Docks, and Carter's Dry Dock, London Dock (Shadwell), and Deptford Green Dock.

No. 3 beyond above distances, between London and Blackwall.

Tonnage of steamers.	No. 1.	No. 2.	No. 3.	Tonnage of sailing vessels.	No. 1.	No. 2.	No. 3.
	s.	*s.*	*s.*		*s.*	*s.*	*s.*
Under 250	40	50	60	400	30	40	50
250 to 500	50	60	80	699	40	50	60
500 to 999	70	80	100	999	50	60	70
1,000 to 1,499	90	100	120	1,299	60	70	80
1,500 to 1,999	100	120	140	1,599	70	80	90
2,000 to 2,499	120	140	160	1,999	80	90	100
2,500 to 2,999	140	160	180	2,499	100	110	120

YARMOUTH.

Harbor dues: Under 150 tons, 3*d.*; over 150 tons, 6*d.* per registered ton.
Ballast: 1*s.* 2*d.* per ton, put into the hold of the vessel at the ballast wharf.

Rates of towage.

[Over 400 tons as agreed for.]

Tonnage.	From or to the Roads.	
	Loaded.	Light.
	£ s. d.	£ s. d.
Vessels under 50	0 13 6	0 12 0
50 and under 60	0 15 0	0 13 6
60 and under 70	0 16 0	0 14 0
90 and under 100	1 3 6	0 17 6
140 and under 150	1 17 0	1 8 0
190 and under 200	2 5 6	1 16 0
240 and under 260	2 13 6	2 4 0
280 and under 300	3 4 0	2 11 0
340 and under 360	3 15 0	2 10 0
380 and under 400	4 0 0	3 4 0

Towage to ballast quays, 5*s.*

LOWESTOFT.

Harbor dues—per register ton.

	s.	*d.*
On vessels arriving to discharge coal	0	2
On vessels arriving to discharge other goods	0	4
On vessels loading part or whole cargo	0	4
On pilot cutters and fishing smacks	0	2
Or on clearing for year	20	0
On fishing luggers	0	1½
Or on clearing for year	20	0
Refuge rate on sailing vessels	0	2
Refuge rate on screw steamers	0	2½
Refuge rate on paddle steamers	0	3

After fourteen days—per week, 1*d.*, 1½*d.*, and 2*d.* respectively.
Vessels putting back same voyage, 1*d.*, 1½*d.*, and 1½*d.* respectively.

On vessels registered of the port of Lowestoft	2	6
Ballast tipped aboard at the drop, per ton	1	0
Ballast transhipped, or from other parts of harbor	0	6
Ballast per lighter (barge, 5*s.* a day and excepting for labor	1	2

Water supplied by Great Eastern Railway Company, 224 gallons, 7*s.*; 112, 1*s.*; 56, 6*d.*; and 28 gallons, 3*d.*

Towage rate.

From Roads to harbor.				From harbor to Roads.			
	£	*s.*	*d.*		£	*s.*	*d.*
Under 40 tons	0	5	0	Under 40 tons	0	3	6
Under 80 tons	0	7	6	Under 80 tons	0	5	0
Under 100 tons	0	10	0	Under 100 tons	0	7	6
Under 150 tons	0	12	6	Under 150 tons	0	10	0
Under 200 tons	0	15	0	Under 200 tons	0	12	6
Of 200 tons	1	0	0	Of 200 tons	0	17	6

And 2*s.* 6*d.* extra for every 25 tons over 200.

Shifting towage in harbor.

If vessel has had tug inwards, under 200 tons register 5*s.*
If vessel has had tug inwards, over 200 tons register 10*s.*

GRIMSBY.

Dock dues, per registered ton; no corporation dues of any kind.

	s.	*d.*
Vessels from or to ports of the United Kingdom	Free	
Vessels from or to any port in Europe from North Cape to Ushant (without the Baltic) and Channel Islands	0	4
Vessels from or to the Baltic, and between Ushant and Gibraltar	0	8
Vessels from or to any other port	1	0

Rent charged after 6 months, 1*d.* per ton per week.
Loaded lighters, in dock over 7 days, 1*d.* per ton per week.

Vessels in ballast, to lay up	0	6
Vessels in ballast, to lay up, after 6 weeks, per week	0	1
Refuge or repair rate, vessels over 50 tons	0	4
Rent after 7 days, per week	0	1
Refuge or repair rate, vessels under 50 tons	5	0
Rent after 24 hours, per week	0	1
Ballast discharged at quay, per ton	0	8
Ballast discharged in lighters, per ton	1	0
Ballast supplied, through port, per ton	1	9
Ballast supplied, into hold, per ton	1	10
Ballast supplied, to smacks, per ton	2	3

Water supplied at 1*s.* 6*d.* per 1,000 gallons.

HULL.

Northeastern Railway Company's Docks, per register ton.

	s.	*d.*
From or to Great Grimsby	0	1
Any port north of Yarmouth and south of Holy Island	0	2
Any port between North Foreland and Yarmouth, and north of Holy Island to Shetland on East Coast	0	3
Any other port in Great Britain	0	5
Any port in Ireland, Channel Islands, and between Elsinore to Ushant without the Baltic	0	6
Any port in Baltic, and between North Cape and Elsinore, and between Ushant and Gibraltar	1	0
Any other port	1	4½

Charged once each voyage, either in or outwards.

Dock rent charged after 3 months, per week	0	1
Barges laden, rent charged after 7 days, per week	0	1

Anchorage, 1*s.* to 2*s.* 6*d.* per vessel.
Jettage, 1*s.* to 7*s.* per vessel, according to size.
Buoyage, ship of 100 tons, 6*s.* 6*d.*, less 10 per cent.
Every additional 10 tons, 6*d.*, less ten per cent.
Ballast, sand, supplied alongside, 1*s.* 6*d.* per ton.
Ballast, stone, discharged, 1*s.* 8*d.* to 2*s.* per ton.

Alexandria Dock, per ton register.

	s.	*d.*
From or to Great Grimsby	0	1
Any port in Denmark, Sweden, or Norway, below and including Elsinore, or any port in Germany, Holland, Flanders, France, to the eastward of Ushant, Ireland, and Guernsey and Jersey	0	4
Any port in the Baltic Seas, above Elsinore, or any port in Europe, to the westward of Ushant, without the Straits of Gibraltar	0	8
Any other port or place	1	0
For every week above 3 months a vessel remains in dock	0	1
For every loaded barge or lighter remaining in dock, for every week beyond 7 days	0	1
All vessels arriving from a Humber port in ballast, and loading or completing a cargo of coal from the company's appliances, to be free of tonnage rates: but if the cargo be from craft on which wharfage rates have not been paid, full tonnage rates to be charged for the port to which the vessel is destined, such vessels arriving from any port outside the Humber	0	1

Special arrangements as to tonnage rates can be made for vessels which have discharged part cargoes elsewhere.
The tonnage rates will be charged on the inward voyage, except in special cases.

Graving dock charges, per ton.

Rent for the first day	0	2½
Rent for second, third, fourth, and fifth days	0	1½
Rent for the sixth and each subsequent day	0	2½

Towage.—Hull to sea, as per agreement. Hull Tug Association charges.—Shifting towage.

No. 1. From Roads to Victoria, Humber, or Albert Docks, loaded.
No. 2. To Roads, from Victoria, Humber, or Albert Docks, loaded.
No. 3. To Roads, from Victoria, Humber, or Albert Docks, loaded.
No. 4. To Roads, from Harbor or Queen's Dock, loaded or light.
No. 5. From Victoria to Albert Docks, light.

Tonnage.	No. 1.	No. 2.	No. 3.	No. 4.	No. 5.
	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
Under 59	0 10 0	0 10 0	0 7 6	0 15 0	0 15 0
80 and under 99	0 16 0	0 14 0	0 12 0	1 0 0	1 1 0
180 and under 199	1 7 6	1 2 6	1 0 0	1 10 0	1 13 0
275 and under 299	1 17 6	1 12 6	1 8 0	1 17 6	2 5 0
375 and under 399	2 7 6	2 2 6	1 16 0	2 5 0	2 17 6
480 and under 519	2 15 0	2 10 0	2 2 0	2 10 0	3 2 6
560 and under 599	3 0 0	2 15 0	2 6 0	2 15 0	3 7 6
680 and under 719	3 7 6	3 2 6	2 12 0	.....	3 12 6
800 and under 839	3 15 0	3 10 0	2 18 0	.....	4 0 0
For each 100 tons add	0 5 0	0 5 0	0 5 0	0 5 0	.....

Towage rates for steamers on and off slips or ways, and in and out of dry docks.

	£	s.	d.
Under 450 tons	4	0	0
Under 600 tons	4	7	6
Under 800 tons	4	17	6
Under 1,000 tons	5	7	6
Under 1,200 tons	5	17	6
Under 1,400 tons	6	7	6

Attending in Hull Roads, 10*s.* per hour first 6 hours, and 5*s.* per hour after 6 hours.

Assisting in or out of dock.

	s.
Under 700 tons	40
Under 1,000 tons	49
Under 1,200 tons	55
Under 1,500 tons	64

Rates for towing smacks.

	s.	d.
Roads to St. Andrew Dock, by agreement	4	0
St. Andrew Dock to Roads	4	0
St. Andrew Dock to Harbor	5	0
Albert Dock to Roads	4	0
Albert or Humber Dock to Hard	5	0
Albert to Queen's Dock or Harbor through South Bridge	10	0
Queen's Dock or Harbor to Roads or Albert Dock	10	0

SOUTHAMPTON.

Harbor rates.

Tonnage duty.—On all ships loading or unloading at the quays or in the roads, 1*d.* per ton each voyage. Colliers, coasters, and short traders allowed to compound at 1*s.* per ton per annum.

Town quay wharfage rates.

On general goods, from 2*d.* to 1*s.* 8*d.* per ton; corn, 1*d.* per quarter.

Dock tonnage rates.

FIRST CLASS.

	s.	d.
From any port in the United Kingdom, Isle of Man, Jersey, Guernsey, Alderney, Sark, or other European ports outside the Baltic, between North Cape and Ushant (Hambro', Bremen, and Embden excepted), with liberty to reload ..... per ton..	0	6
Rent, after 3 weeks from the date of entering the dock if discharged by the crew, from the date of final discharge if discharged by the dock company ..... per ton per week..	0	1
Loading for any of those ports, not having discharged cargo in the dock ..... per ton..	0	6
Rent, after 3 weeks from date of entrance ..... per ton per week..	0	1

SECOND CLASS.

From Hambro', Bremen, and Embden, with liberty to reload ..... per ton..	0	6
Rent, after 5 weeks from date of entrance ..... per ton per week..	0	1
Loading for any of the ports, not having discharged cargo in the docks ..... per ton..	0	6
Rent, after 3 weeks from date of entrance ..... per ton per week..	0	1

THIRD CLASS.

From any port in the Mediterranean, with liberty to reload for any port ..... per ton..	0	9
Rent, after 5 weeks from date of entrance ..... per ton per week..	0	1

FOURTH CLASS.

From all other ports and places, with liberty to reload for any port ..... per ton..	0	9
Rent, after 3 weeks from date of entrance if the cargo be discharged by crew, from date of final discharge if the cargo be discharged by dock company ..... per ton per week..	0	1
Loading for any ports or places in the third or fourth classes, not having discharged their cargoes in dock ..... per ton..	0	9
Rent, after 3 weeks from date of entrance ..... per ton per week..	0	1

EXCEPTIONS.

Vessels from any port in the United Kingdom which land one-third (or more) of their cargoes will be admitted into the dock free of dues, with liberty to remain 24 hours after their final discharge.		
Rent after that period ..... per ton per week..	0	1
From Spain or Portugal with cargoes of wool and cork ..... per ton..	0	6
Rent after 3 weeks from date of entrance ..... per ton per week..	0	1
To or from southern whale fisheries ..... per ton..	1	0

Oil delivered into craft	per ton..	0 6
Rent after 5 weeks from date of entrance	per ton per week..	0 1
Landing part of cargoes—first or second class goods landed	per ton..	0 6
Third or fourth class of goods landed	do....	0 9
Rent after 1 week from date of entrance	per ton per week..	0 1
Loading part cargoes—first or second class goods taken on board	per ton..	0 6
Third or fourth class of goods taken on board	do....	0 9
Rent after 1 week from date of entrance	per ton per week..	0 1
Light vessels to lie-up—on entering	per ton..	0 6
Rent after 3 weeks from date of entrance	per ton per week..	0 1

Dock rates on colliers and coals.

COALS SEABORNE.

Dues on the vessel, with liberty to remain in dock 24 hours after final discharge of cargo		21 0
For every ton of coal landed (wharfage)		0 6
For every ton of coal transhipped		0 2

COALS BY RAILWAY.

Haulage from inside dock gates to ship or depot, and returning empty trucks to railway terminus	per ton..	0 6
Wharfage	per ton..	0 6

Towage rates.

Parties requiring the use of tug-boats to apply to the company's office, Dock Chambers.
All vessels in the foreign trade to pay 1*d.* per customs registered ton more than coasting vessels. Over 300 tons, ½*d.*

BRISTOL.

Dock rates.

[Rates on tonnage payable on entering the port.]

	s.	*d.*
From Africa, Honduras, Surinam, and other ports in South America, the United States of America, the East and West Indies, all the ports within the Straits of Gibraltar, the southern whale fishery, the British colonies, Portugal, Prussia, Russia, Spain, without the Straits, and Sweden—per ton..	1	0
From Flanders, France, without the Straits, Germany, Guernsey, Holland, Jersey, Norway, Poland, and Zealand—per ton..	0	6
From Ireland, Isle of Man, Scotland, or as a coaster, not including vessels from Cardiff, Newport, and other ports to the eastward of the Holmes—per ton..	0	4
From Cardiff, Newport, or any other port to the eastward of the Holmes (not being vessels one-third part of the lading of which shall consist of coal, scroff, iron, tin, tin plates, grain, copper, bricks, stone, coal tar, slate, bark, timber, or wood, as follows:		
Under 40 tons—each voyage..	7	6
40 tons and under 75 tons—do....	12	6
75 tons and under 100 tons—do....	16	0
100 tons or upwards—do....	21	0
From Cardiff, Newport, or any other port to the eastward of the Holmes, one-third part of the lading of which shall consist of coal, scroff, iron, tin, tin plates, grain, copper, bricks, stone, coal tar, slate, bark, timber, or wood, as follows:		
Not exceeding 75 tons—each voyage..	5	0
Exceeding 75 tons—do....	7	6

NOTE.—There are no dock dues or other port charges payable on vessels leaving the port of Bristol.

Anchorage and moorage.

All coasting vessels from ports westward of the Holmes:		
Not exceeding 40 tons—each voyage..	0	2
Above 40 tons—do....	0	6
All other vessels under 30 tons (anchorage)—each..	2	6
All other vessels under 30 tons (moorage)—per ton..	0	0½
All other vessels 30 tons and under 100 tons (anchorage)—each..	5	0
All other vessels 30 tons and under 100 tons (moorage)—per ton..	0	0½
All other vessels 100 tons and above (anchorage)—each..	5	0
All other vessels 100 tons and above (moorage)—per ton..	0	1

Cargo dues.

Shipowner's portion of discharging cargo, costs at Bristol 4*d.* to 5*d.* per ton.
Ballast, 8*d.* to 9*d.* per ton.

Town dues.

All goods not particularly rated, 1*d.* per 100 tons.
NOTE.—There are no dues of any sort on exports.

Towage rates.

Up or down rates for sailing vessels, per ton:	d.
Holmes or Penarth to Bristol	7
Kingroad to Bristol	5
Bristol to Cardiff	8
Bristol to Newport	8
Bristol to Kingroad	4
Bristol to Holmes	5

Tugs detained waiting on ships—ships to pay £2 10*s.* each tide tug detained.
Steamers requiring assistance from Kingroad, if under 400 registered tons, to pay £5; if over 400 registered tons, 4*d.* per ton for one tug-boat, the charge for such tug never to exceed £14, with an extra charge of £5 for each additional tug employed; and for towage of steamers down the river from Bristol to Kingroad with 1 tug, 3*d.* per ton, the charge for 1 tug never to exceed £10, with an extra charge of £5 for each additional tug employed.

NEWPORT (MON.).

Harbor dues per registered ton.

	s.	d.
With cargo coastwise, entering and leaving each way	0	0½
With cargo foreign, entering and leaving	0	0½
Light or in ballast, coastwise or foreign	Free.	
Loading and discharging at river wharfs	0	1

Old Dock rates.

Vessels entering and departing with cargoes from ports of United Kingdom and Ireland, and Channel Islands	0	2
From ports in Europe, North Cape to Gibraltar	0	5
Vessels with cargo and departing light, or *vice versa*, under 100 tons, 3*d.*; to 150, 4*d.*; above 150 tons	0	5
From ports east of North Cape and in Mediterranean	0	7
Vessels with cargo and departing light, or *vice versa*, under 100 tons, 5*d.*; to 150 tons, 6*d.*; above 150 tons	0	7
From any other port or place	0	9
Vessels entering and leaving in ballast	0	3
Without breaking bulk, or with the same cargo, within 3 weeks	0	6
Vessels entering after having left with same cargo	0	3
Vessels entering from United Kingdom and leaving foreign are rated as to port of destination.		
Vessels receiving or landing cargo at company's wharfs outside docks	0	2

Rent charged on vessels entering in ballast to load, not over 200 tons, after 2 weeks; under 400, 3 weeks; under 700, 4 weeks; 700 and upwards, 5 weeks With cargo to load, not over 200 tons, after 3 weeks; under 400, 4 weeks; under 700, 5 weeks; above 700, 6 weeks. For periods over the above, first week, ½*d.*; second, ½*d.*; third, 1½*d.*; and fourth and every other week, 1½*d.* per registered ton.
Ballast, discharged and removed, 1*s.* per ton; supplied and shipped, 2*s.* per ton.

Alexandria Dock Company.

Dock rates, etc., on vessels, same as Old Dock.
Exception—vessels under 100 tons from or to United Kingdom or Channel Islands, 1½*d.* per registered ton.
Towage rates per registered ton to and from Watchhouse Reach, 2*d.*; Bridgewater Reach, 2½*d.*; River Mouth, 3*s.*; Spit, 3½*d.*; Holmes, 4*d.*

CARDIFF.

Bute docks.—Rates per registered ton.

	s.	d.
All vessels entering from or departing for any port in the United Kingdom, Isle of Man, Jersey, Guernsey, Alderney, and Sark, under 100 registered tons	0	1½
100 tons and under 200 tons	0	2
200 tons and upward, except steam-vessels	0	3
Steam-vessels, 200 registered tons and upwards	0	2
Any port in Europe between the North Cape and Cape Finisterre	0	5
Any other port in Europe and the Mediterranean	0	7
Any other foreign port whatsoever	0	9
All vessels which do not enter within the gates of any dock or basin, but which either discharge or receive passengers or goods upon or from any pier, landing place or jetty	0	3
If any vessel, less than 200 tons measurement, shall remain within any dock or basin for a period longer than 10 days; 200 tons and under 400 tons, for a longer period than 14 days; 400 tons and upwards, for a period longer than 21 days; then for the period during which the vessels remain beyond, the following rates:		
For the first 7 days	0	1
For the second 7 days	0	1½
For every day beyond the second week	0	2
Steamers taking bunker coal only (quantity not to exceed one-third of vessel's burden)	0	4

Discharge, removal, and deposit of ballast per ton.

Under 100 tons	0 6
100 and under 200 tons	0 8
200 and under 400 tons	0 9
400 and under 600 tons	0 10
600 and under 800 tons	0 11
800 and under 1,000 tons	0 12
1,000 tons and upwards	0 13

Additional rates.—For the use of barges, if required, 4*d.* per ton on the quantity discharged.
Discharging ballast by night, 3*d.* per ton on the quantity discharged.

Towage rates in the Bute docks.

	£	s.	d.		£	s.	d.
Under 50 registered tons	0	3	9	500 and under 700 tons	0	18	9
50 and under 100 tons	0	5	3	700 and under 900 tons	1	2	6
100 and under 200 tons	0	7	6	900 and under 1000 tons	1	10	0
200 and under 300	0	11	3	1,000 and under 1,100 tons	1	13	9
300 and under 500 tons	0	15	0				

And 3*s.* 9*d.* for every additional 100 tons, or portion thereof.

Wharfage rates at the Bute docks.

Cattle—Calves, lambs, sheep and pigs, 1*d.* each; horses, 1*s.* each; oxen and cows, 6*d.* each; yearlings, ponies, mules, and asses, 3*d.* each.
Coal, coke, culm, or stone coal, 2*d.* per ton.
Corn, wheat, barley, oats, peas, and beans, 8*d.* per ton.
Iron—bar, bolt, wrought, or iron wire, 6*d.* per ton; machinery 1*s.* per ton; cast, guns, gun carriages, shot or boilers, 9*d.* per ton; pig, 4*d.* per ton; scrap, 6*d.* per ton; ore, 3*d.* per ton.

Charges on wood goods.

DEALS.

	s.	*d.*
Receiving ex-ship and delivering to rail—per Petersburg standard	3	6
Receiving ex-ship piling, and delivering to craft	5	6
Receiving ex-ship, delivering to craft overside	1	6
Receiving ex-lighter, and delivering to rail per Petersburg standard	2	3
Rent per week	0	1

TIMBER FLOATED.

Floating logs to pond, and afterwards delivering, including loading to rail ..... per load..	1	0
Rent—Sawn pitch pine, Swedish, memel, and dantzic ..... per week per log..	0	1½
Other hewn timber ..... do....	0	1½

TIMBER LANDED.

Receiving ex-raft or lighter, and loading to rail ..... per load..	0	7
Hauling to gantry, stacking, and delivering to rail ..... do....	2	0
Hauling to craft ..... do....	2	8
Rent to craft ..... per week per load..	0	0½

Trimming charges per ton.

Bunkers:

One deck	0	5½
Two deck	0	7½
Three deck	0	10½

Tipped into "reserves" (up to 200 tons), 1*d.* per ton more than cargo; if over 200 tons, cargo rate.
Bunker coal wheeled, 4*d.* per ton extra.

Cargoes trimmed in the holds of—

1-decked vessels:		
When three hatchways are used	0	2½
When two hatchways are used	0	3½
When one hatchway only is used	0	3½
When only one is used and the vessel is under 200 tons cargo	0	2½
1½-decked vessels:		
When three hatchways are used	0	3
When two hatchways are used	0	3½
When one hatchway only is used	0	4
2-decked vessels:		
When three hatchways are used	0	3½
When two hatchways are used	0	4
When one hatchway only is used	0	4½
2½-decked vessels:		
When three hatchways are used	0	4½
When two hatchways are used	0	4½
When one hatchway only is used	0	5½
3-decked vessels:		
When three hatchways are used	0	4½
When two hatchways are used	0	5½
When one hatchway only is used	0	6

Steamers to pay same as sailing vessels. Small coal same as large.

Towage rates in the port of Cardiff per registered ton.

	s.	d.
Foreign-going vessels:		
Over 300 tons, roads to docks	0	3
Over 300 tons, docks to roads	0	2
300 tons and under, roads to docks or docks to roads	0	2½
Coasters:		
Mud to docks or docks to mud	0	2
Beyond the mud	0	2½
Shifting docks:		
Penarth docks to Cardiff docks	0	2
Cardiff docks to Cardiff Gridiron or Gunn's dock	0	1
Penarth dock to Penarth Gridiron	0	1
Glamorganshire Canal to Penarth docks, Ely Harbor, Cardiff docks, Gridiron or Gunn's dock	0	2½
Steamers:		
Roads to docks, Graving docks, Gridiron, or slipway	0	1
Docks to Penarth Head	0	1

Up and down channel rates.

Penarth roads or Holmes to Avonmouth or Portishead docks	0	5
Penarth roads or Holms to Bristol	0	7
Penarth roads or Holms to Sharpness	0	10
Penarth roads or Holms to Newport	0	4
Cardiff or Penarth docks to Newport	0	5
Kingroad to Bristol	0	5
Kingroad to Sharpness	0	8
Kingroad to Avonmouth	0	3
Kingroad to Portishead	0	3
Under 800 tons, to and from Avonmouth or Portishead, requiring two boats, extra for second tug	0	1½
Bristol to Kingroad	0	4
Kingroad to Holms	0	2
Bristol to Cardiff or Penarth docks	0	8
Avonmouth, or Portishead, to Kingroad	0	3
Avonmouth, or Portishead, to docks to Holms	0	5
Avonmouth, or Portishead, to Cardiff or Penarth docks	0	6
Sharpness to Kingroad	0	6
Sharpness to Holms	0	7
Sharpness to Cardiff, Penarth, or Newport	0	8

Steamers for Sharpness, first tug, 4*d*; second tug, 2*d*.

Vessels requiring the assistance of a second tug astern shall pay in addition as follows: Under 600 tons, £3; 600 and under 1,000, £4; 1,000 and upwards, £5.

SWANSEA.

TABLE I.

First class. Coastwise.—From or to any port or place in the United Kingdom, Isle of Man, or the Channel Islands: If a steam vessel, 2*d*. per ton; if other than a steam vessel, 3*d*. per ton.

Second class. European.—From or to any port or place in Europe, between the North Cape and Cape Finisterre, 5*d*. per ton.

Third class. European.—From or to any port or place in Europe, not included in the first or second class, or within Straits of Gibraltar, 7*d*. per ton.

Fourth class. Beyond Europe.—From or to any port or place not included in any of the above classes, 9*d*. per ton.

TABLE II.

For every vessel belonging to the first class, being under 250 tons, remaining in port more than 10 days; above 250 tons and remaining more than 14 days; and for every vessel of the second, third, or fourth classes, remaining more than 21 days, at the rate per ton per week of—for the first 7 days, 1*d*.; for the second 7 days, 1½*d*.; beyond the second 7 days, 2*d*.

Vessels in ballast will be classed and charged according to the outward voyage.

Bunker coal.—Steamers entering for Bunker coal only, and not remaining in dock more than six clear tides, or not taking more coal than one-third burden, not more than 4*d*. per registered ton.

For repairs only.—Vessels entering for the purpose of undergoing repairs, if so reported on arrival, will pay half rates under Table I, and in all cases of such vessels entering for the purpose only of using one of the graving docks, if they clear out to sea without using the dock or harbor waters, except in passing through, shall be free of all rates under the above tables.

Trade with America.—Steam vessels for the Atlantic ports of North America, when chargeable in respect of the outward voyage, pay half rates.

Stress of weather.—Vessels driven into port by stress of weather can use the harbor free of rates for the period of four tide; after that period half rates.

Dock rates.—Vessels may be freely moved from one dock to another without paying rates beyond the above.

Vessels seeking freights.—Vessels seeking freights are allowed to use the harbor and docks for 7 days without being liable to any of the above rates, provided that they leave the port within 7 days without performing any operation, or taking in or discharging cargo, bunkers, or ballast, after which time such vessels shall be liable to rates under the above tables. But no vessel shall be entitled to exemption under this rule unless the master shall, at the time of entering the harbor, state to the dock master that his vessel is "seeking freight," and shall so report her at the harbor office.

The above are the only rates authorized by the harbor trustees to be levied on shipping.

Vessels laying up are charged rent at the rate of 20*s.* per 100 tons per month in addition to rates under Table I, but free under Table II.

BARROW.

Harbor and dock dues per ton.

[Payable by vessels entering the docks.]

	s.	*d.*
From any port or place in England between St. Bees Head and the Point of Air:		
For vessels under 85 tons register	0	3
For vessels above 85 tons register, but not exceeding 150 tons	0	4
For vessels above 150 tons register	0	6
From any other port or place in the United Kingdom, including the islands of Jersey, Guernsey, Alderney, Sark, and Man:		
For vessels of any size	0	6
From any foreign port:		
For vessels of any size	1	0

NOTE.—Any vessel remaining in the dock more than 4 weeks will be charged 2*d.* per ton register per week after the first 4 weeks. Portions of a week will be charged as for 1 week.

Harbor dues per ton.

[Payable by vessels entering within the limits of the harbor, but not coming into dock.]

	s.	*d.*
From any port or place in England between St. Bees Head and the Point of Air:		
For vessels under 85 tons register	0	1½
For vessels above 85 tons register but not exceeding 150 tons	0	2
For vessels above 150 tons	0	3
From any other port or place in the United Kingdom, including the islands of Jersey, Guernsey, Alderney, Sark, and Man:		
For vessels of any size	0	6
From any foreign port:		
For vessels of any size	1	0

For every vessel entering and leaving the harbor or docks without delivering or loading a cargo half of the above dues will be charged.

Ballast discharged from vessels at 6*d.* per ton, or supplied to vessels and put on board at 1*s.* per ton.

Water supplied to vessels at 6*d.* per hogshead.

Small crane, 3*s.* per hour; large crane, 5*s.* per hour.

Timber floated in dock, ¼*d.* per square yard per month.

Use of tug in dock, ¼*d.* per ton.

Rates on goods.

	d.
Pig iron, coal or coke, or minerals ..... per ton	1½
Timber, per load of 50 cubic feet ..... per load	3
Timber, in dock over 1 month, per week ..... do	1½
Goods or merchandise ..... per ton	3
Goods, or per ton of 40 cubic feet ..... do	6

Horses, 1*s.*; Oxen, 6*d.*; ponies, 6*d.*; calves, sheep, and pigs, 1*d.* each.

LIVERPOOL.

Payable to the mersey docks and harbor board per registered ton.

	Dock.	Harbor.*	Wharf.
	s. d.	*s. d.*	*s. d.*
Class 1.—Between St. David's Head and Carlisle, including the island of Anglesea	0 2¾	0 0¾	0 0¾
Between Carlisle and the Mull of Galloway, including the Isle of Man	0 3	0 0¾	0 0¾
Class 2.—Between the Mull of Galloway and Duncan's Bay Head, including the Orkney Isles, and all the islands on the western coast of Scotland and between St. David's Head and the Land's End, including the Scilly Islands and the east coast of Ireland from Cape Clear to Malling Head	0 4½	0 0¾	0 1½
Class 3.—All the parts of the east and southern coasts of Great Britain between Duncan's Bay Head and the Land's End, including the Islands of Shetland, and all parts of the west coast of Ireland from Cape Clear to Malling Head, including the islands on the coast	0 6	0 0¾	0 1½
Class 4.—All parts of Europe to the northward of Cape Finisterre and to the westward of the North Cape and without the Cattegat and Baltic Sea, and including the islands of Guernsey, Jersey, Alderney, Sark, the Faro Island, and Iceland	0 10½	0 1½	0 2¼
Class 5.—All parts within the Cattegat and Baltic, including the whole of Sweden, the White Sea, and all parts to the eastward of the North Cape, all parts in Europe to southward of Cape Finisterre without the Mediterranean, Newfoundland, Greenland, Davis's Straits, Canaries, Western Islands, Maderia, and Azores	1 2	0 1½	0 3½
Class 6.—All parts on the east coast of North America, the West Indies, the east coast of South America to the northward of Rio la Plata inclusive; all parts of the west coast of Africa, and islands to northward of the Cape of Good Hope, and all parts within the Mediterranean, including the Adriatic, the Black Sea and Archipelago, the Island of St. Helena, Ascension, and the Cape de Verde Islands	1 5	0 1½	0 4½
Class 7.—All parts in South America to the southward of the Rio la Plata; in the Pacific Ocean; and in Africa and Asia to the eastward of the Cape of Good Hope	1 5	9 2	0 4½

* Less 15 per cent. off harbor rates.

Vessels arriving with cargo are charged on the inward voyage, and arriving in ballast on the outward voyage.

New vessels built in the port and vessels arriving and departing in ballast are charged half of above rates on the outward voyage.

Vessels remaining in dock above two and under six months, 1*d.* per ton per week additional; above six months, 2*d.* per ton per week.

DOCK DIFFERENTIAL RATES.

Vessels arriving in ballast and loading outwards foreign or coastwise cargoes of coal or coke, half rates.

Vessels arriving in ballast and loading outward foreign in the Great Float or Wallasey Dock, Birkenhead, cargoes of salt, coal or coke, iron, steel rails, bricks, or iron ore, half rates.

Vessels arriving in ballast and using the Birkenhead Graving Docks only, whose outward cargoes consist of salt, coal or coke, iron, steel rails, phosphate, bricks, or iron ore, half rates.

Vessels discharging cargoes in the Great Float, Birkenhead, of which not less than half consists of various ores, and leaving the port direct without using any other dock, half rates.

Vessels discharging cargoes consisting solely of cattle, sheep, or pigs, at the board's lairages or wharves, and leaving in ballast, half rates.

New vessels built in the United Kingdom, which come to Liverpool in ballast direct from places at which they were built and trade outwards in cargo, half rates.

ANCHORAGE DUES.

Vessels coastwise, each 1*s.*; foreign, 1*s.* 3*d.* These dues are legally chargeable, but by order of the board they are not at present collected.

Discharging cargoes from vessels per ton landed.

	s. d.
Grain, meal, jute hemp, and East Indian cotton and wool	0 8
Flour of all descriptions, sago, tapioca, etc	0 8
Cotton (North American) per steamers, they supplying steam-power for breaking out	0 8
Cotton (North American) per sailing vessels	0 10

	s.	d.
Sugar, in baskets from Java, and in bags from the West Indies, Mauritius, Peru and from continental ports	0	8
Sugar of other descriptions, in mats or bags, including Brazil, Manilla, and Jaggery from Java and the Madras coast	0	9
Guano, fish guano, nut bones, and phosphate of lime, in packages	0	10
The same, in bulk	1	3

Bramley-Moore and Wellington Docks.

COAL EXPORTED.

		s.	d.
Foreign:			
For use of high level, collected by railway company	per ton..	0	2
Dock rates and town dues	do....	0	1½
Coastwise:			
For use of high level, collected by railway company	per ton..	0	2
Town dues	do....	0	1
Coal shipped into hold or reserved bunkers for use on board seagoing vessels, steamers, or for ships' stores:			
For use of high level, collected by the railway company	per ton..	0	2
Coal loaded into the permanent bunkers of steamers, or reserved bunker or tank, which require to be filled through a manhole or other small opening:			
Collected by the railway company	per ton..	0	2
Collected by the board	do....	0	4

Coke and pitch are charged double coal rates.

Charges at Birkenhead per ton.

COAL.

	s.	d.
Loading coal into ships and steamers, including haulage, tipping, and stowage and lowering, 10 per cent. of registered tons into hold	0	5
Loading coal into reserved bunker hatches	0	5
Loading coal into permanent bunkers, or through a manhole, etc., extra trimming	1	0
Loading coal into flats or barges	0	3
Loading coal into flats by the ballast crane	0	6
Loading coal for stiffening to vessels discharged by ballast crane	0	6
Loading coal for stiffening to vessels discharged by ballast crane if over 10 per cent. of registered tonnage	0	8

Coke double the above rates.

Vessels can be loaded with coal at the rate 500 to 800 tons per day.

BALLAST.

Discharging ballast by crane	0	7
Shipping ballast by crane	0	9
Discharging ballast when berthed at the appliances	0	10

SALT.

In bulk—shipping, weighing, and trimming	0	6
In bulk—shipping and weighing only	0	4
In bags—shipping and stowing	0	10
For the use of crane only	0	3

Moving of vessels using the coal hoists or ballast cranes, 4*s.* for every 100 tons registered.

LEITH.

Harbor and dock rates per registered ton.

[First eight voyages.]

	s.	d.
From Asia or Africa to the east of the Cape of Good Hope, including the Cape, or from South America:		
For the first voyage in year	1	5
For each of next seven voyages in year	0	4
From the West Indies, west coast of Africa, Cape de Verde Islands, or Greenland and Davis Straits fisheries:		
For each of first two voyages in year	1	5
For each of next six voyages in year	0	4
From within the Straits of Gibraltar or from North America:		
For each of four first voyages in year	1	2
For each of next four voyages in year	0	4
From the Baltic all above Elsinore, Onega, Archangel, Jersey or Guernsey, Portugal, France, and Spain, without the Straits of Gibraltar, Newfoundland, Madeira, and Western Islands:		
For each of first five voyages in year	1	0
For each of next three voyages in year	0	3
From Norway, Sweden, Denmark, Holstein, Hamburg, Bremen, Holland and Flanders, that is, without the Baltic, and no further south than Dunkirk	0	10
From ports in Great Britain and Ireland other than those mentioned below	0	8
From ports between Buchanness and Eyemouth, Great Canal, and Clyde to Greenock	0	5
Vessels loaded with coals, from English ports	0	6
Vessels loaded with coals, from Scotch ports	0	4
Steam vessels from Firth of Forth, inside North Berwick and Anstruther, with passengers and their luggage only	0	0½

When a vessel shall have paid full rates for eight voyages between Whitsunday in any one year and Whitsunday in the following year, for any further voyage during that period, pay only 2*d.* per ton per voyage.

	s.	*d.*
Vessels in ballast, to load coals, pig-iron, etc	0	4
Vessels in ballast only to use graving docks and take no goods on board	0	2½
Vessels coming for coals and provisions for own use only, not remaining over 48 hours	0	2
Vessels coming for coals and provisions for own use only, remaining over 48 hours	0	4

Vessels entering the harbor and docks (including Newhaven) for safety, convenience, or repairs, shall pay half rates; remaining over 2 months, full rates.

Vessels remaining in harbor and docks 4 calendar months shall pay ¼*d.* per ton per week that they shall remain thereafter.

Decked fishing boats landing or taking on board fish or goods, not being liable to the rates for Newhaven, 3*s.* each.

Open boats do., 1*s.* 6*d.*

All these rates are subject to a deduction or discount of 20 per cent. until further notice.

Towage.—Harbor towage.

Inward, 3*d.*; outward, 2*d.* per ton.
Second boat, 1½*d.* per ton inward.
From Leith, clear of Inchkeith, 3*d.* per ton.
Towage of steamers to Granton or *vice versa*, £3.
No difference made for vessels in ballast.
Distance money as per agreement.

Towage rates from Leith to—	To 40 tons.	40 to 60.	60 to 80.	80 to 100.	140 to 160.
	£ *s.*	£ *s.*	£ *s.*	£ *s.*	£ *s.*
Aberdour, Burntisland, Pettycur, and Fisherrow	1 8	1 11	1 15	1 19	2 12
St. David's and Inverkeithing	1 13	1 16	2 0	2 4	2 17
Charleston and Limekilns	1 15	1 19	2 3	2 7	3 0
Bridgeness and Bo'ness	2 1	2 5	2 10	2 14	3 5
Alloa, Kennetpans, and Clackmannan	2 10	2 14	2 18	3 2	3 15
North Berwick	3 0	3 4	3 8	3 13	4 5
Kirkcaldy, Dysart, and Cockenzie	1 15	1 17	2 3	2 7	3 0
Grangemouth and Kincardine	2 6	2 10	2 15	3 0	3 13
Wemyss	2 0	2 2	2 8	2 12	3 5
Methel, Levan, and Largo	2 10	2 12	2 18	3 2	3 15
Elie, Anstruther, and Pittenweem	3 5	3 10	3 13	3 18	4 10
Crail and Dunbar	3 10	3 12	3 18	4 2	4 15

And 5*s.* for every 20 tons additional.
From ports east of Leith, 10*s.* extra.
From Leith to Granton, 3*d.* per ton.

Ballast.

Receiving: Sand, 1*s.* 3*d.*; stones, 2*s.* and 3*s.* 6*d.* per ton. Landed, 1*s.* per ton.

Refuge at Leith or Newhaven, half-rates. If breaks bulk or remains in harbor 2 months, full rates; over 4 months, ¼*d.* per registered ton per week.

Light and flag dues: Vessels over 40 tons, 2*s.* 6*d.*

IRELAND.

Belfast.—Towage: Under 100 tons, 30*s.*, 125 tons, 35*s.*, 150 tons, 40*s.*, 200 tons, 60*s.*, 250 tons, 70*s.*, and so on in proportion; foreign-going, 10*s.* more. Harbor, 3*d.* per ton register. Quayage, 3*d.* per ton; foreign, 5*d.* From 1*s.* per ton ballast.

Cork.—Tonnage: Coasters 2*d.*, foreign 3*d.* per ton. Ballast, 1*s.* to 1*s.* 8*d.*

Crookhaven.—No harbor dues, quayage, or anchorage. No lights demanded on vessels proceeding to British ports; lights demanded on vessels receiving orders for Continent same as at Queenstown; 1*s.* per ton for stone ballast.

Dublin.—Plankage vessels discharging under 150 tons, 3*s.*; under 200 tons, 4*s.*; over 200 and under 250 tons, 5*s.* Ballast, 1*s.* 10*d.*, and 2*d.* for putting on board.

Galway.—Dock dues on foreign vessels, 1*s.* 2*d.* per registered ton; coasters, 8*d.*; steamboat, 1*s.* 6*d.* per registered ton. Ballast alongside, 1*s.* 6*d.* per ton.

Kingstown.—Same as Dublin. Anchorage, 7*s.* 6*d.*; 1*d.* per ton quayage. Ballast, 1*s.* 6*d.* per ton.

Limerick.—Harbor, 6*d.* per ton; ballast, 1*s.* to 1*s.* 6*d.*

Londonderry.—Anchorage, 1*s.* 6*d.* to 2*s.*; ¼*d.* per ton quayage; ballast, 1*s.* to 1*s.* 3*d.*

Sligo.—Plankage, 2*s.*; harbor dues, 6*d.* per ton; ballast, 1*d.* to 1*s.* per ton.
Tralee.—1*s.* 6*d.* per foot in or out; 2*s.* to 2*s.* 6*d.* per mast; ballast, 10*d.* to 1*s.* 3*d.* per ton.
Waterford.—Three pence per ton register; ballast, 6*d.* to 1*s.* 6*d.* per ton.
Westport.—Wharfage, 9*d.* per ton; cranes from 2*d.* for 1 ton to 2*s.* 6*d.* for 10 tons. Under 100 tons, 2*d.*; above, 3*d.*; in ballast one-half. Ballast, 2*s.* 6*d.* per ton for stones; 1*s.* 3*d.* sand.

SCOTLAND.

Aberdeen.—Ship dues, 1*d.* per ton first 14 days, ¼*d.* each day after. Plankage, 1*s.* 9*d.* each vessel. Shore tonnage duty: All vessels to or from any port between Flamborough Head on south and Cape Wrath on the north, 2*d.*; to other ports in United Kingdom, 3¼*d.*; 1*s.* per ton. Stone 1*s.* 4*d.* to 1*s.* 6*d.*
Arbroath.—Lights, ¼*d.* per ton; ballast, 1*s.* per ton on board.
Ayr.—Rates: Under 15 tons, 2*d.*; over 15 tons, 3*d.* Anchorage: 20 tons and under, 1*s.* per vessel; 20 tons and under 40 tons, 1*s.* 6*d.*; 40 tons and under 60 tons, 2*s.*; 60 and under 80 tons, 2*s.* 6*d.*; 80 and under 100 tons, 3*s.*; 100 and under 150 tons, 4*s.*; 150 and under 200 tons, 5*s.*; 200 tons and upward, 7*s.* Ballast, 2*d.* to 8*d.*

QUARANTINE LAWS AND REGULATIONS OF THE UNITED KINGDOM.

Persons arriving in ships from infected places, not to land before examination, Her Majesty in council, or any two of the lords of the privy council, may from time to time require that no person on board of any ship coming to any port in the United Kingdom, or the Channel Islands, or the Isle of Man, from or having touched at any place out of the United Kingdom abroad where they have reason to apprehend that yellow fever or other highly infectious distemper prevails, shall quit the ship before the state of health of all persons on board shall be ascertained on examination, by the proper officer of customs at place appointed for that purpose, and before permission to land shall have been given by such officer, whether or not it shall on or after such examination be found expedient to order such vessel under the restraint of quarantine; and any person so quitting such vessel shall forfeit £100. Master, pilot, or other person in charge neglecting to hoist signal directed by such order until permission has been given to haul down the same is liable to a like penalty.

Six months' imprisonment may be ordered by court in default of payment of penalties.

ABSTRACT OF LAWS OF QUARANTINE, AS CONSOLIDATED BY 6 GEO., IV, CAP. 78.

All vessels, including ships of war, coming from or having touched at any place from whence it may be adjudged by Her Majesty in council the plague or other highly dangerous infectious disease may be brought, and all boats, etc., receiving any person or article from such vessel to be considered liable to quarantine.

Her Majesty, in privy council, having reason for believing yellow fever or other infectious disease prevails in America or the West Indies may order vessels arriving therefrom to anchor at certain places to be named by commissioners of customs in order to ascertain health of crew, such vessels not to be deemed liable to quarantine unless specially ordered. (Section 3.)

Similar power given to lord lieutenant of Ireland in council (section 4). Certain sorts of goods specially liable to retain infection to be subject to regulations and restrictions of orders in council.

Powers of privy council to present and regulate performance of quarantine in special cases and all proclamations to be made in London Gazette. (Section 6.)

Masters of infected vessels within or without the Straits of Gibraltar to proceed immediately to such place as is appointed by order in council, and report to the officer of customs, who is to report to the commissioners of customs with all dispatch; the master to obey directions under a penalty of £100 in default. (Section 7.)

Masters of vessels liable to quarantine to hoist certain flags and signals on meeting other vessels at sea, or being within two leagues of the United Kingdom, Channel Islands, or Isle of Man.

If the vessel has clean bill of health a large yellow flag of six breadths of bunting

at the mainmast top; if not a clean bill of health, then a like yellow flag with a circular mark or ball entirely black, the diameter of which to be equal to two breadths of bunting; and at night the signal in both cases to be a large signal lantern, with a light therein, as used in the royal navy, at the mainmast head, such signal to be displayed when within sight of vessels or within 2 leagues from coast, and at place of performance of quarantine until discharge. Penalty in default £100. (Section 8.)

Masters of vessels having the plague or other infectious diseases on board to hoist certain signals. (Section 9.)

Penalty on persons not liable to quarantine hoisting such signals. (Section 10.)

Masters of vessels from foreign ports to give information to pilots of places touched at. And pilots to inform master if the proclamation of any place during the voyage has rendered the vessel liable to quarantine. (Section 11.)

Master to give pilot a list of goods and pilot to give notice if they are liable to quarantine; penalty on pilot for conducting vessels to any other place than that of quarantine. (Section 12.)

The pilot or master on board any vessel, whether subject to quarantine or not, to bring to, at the request of officer of customs authorized to act on service of quarantine; penalty in default £100. (Section 14.)

The port superintendent or officer of customs may, at a convenient distance from the ship, make inquiries, the master to truly answer such; penalty in default £200. (Section 14.)

Force may, if necessary, be used to compel vessels liable to quarantine to repair to appointed places; masters of vessels that have touched at infected places, etc., or knowing any person on board to be infected, and omitting to disclose the fact, or to hoist the prescribed signals, incur a penalty of £300. (Section 15.)

Masters of vessels subject to quarantine on their arrival at the appointed stations to deliver to the officer (section 14) bill of health, manifest, log book, and journal; penalty in default £100. (Section 16.)

The master of a vessel liable to quarantine, quitting or permitting others to quit the vessel before the quarantine is performed (unless by license granted by an order in council), or who shall not cause his vessel to be duly conveyed to place appointed for quarantine, to forfeit £400; and any person, pilot or otherwise, quitting the vessel unlawfully may be forced by any person to return, and incurs a penalty of £300 and 6 months' imprisonment. (Section 17.)

All persons liable to quarantine, and all having communication with such, to obey orders of quarantine officers; penalty in default £200. (Section 18.)

All persons liable to quarantine, and all having communication with such not obeying quarantine regulations, may be apprehended by constables and brought before a magistrate. (Section 19.)

Intercourse with stations appointed for quarantine may be prohibited by order in council; penalty for every offense £200.

Any officer embezzling goods under quarantine to be incapable of holding further office and to incur penalty of £200. Any officer permitting persons, vessels, etc., to depart without authority, or giving a false certificate, to be guilty of felony; any officer damaging goods incurs a penalty of £100 and costs of suit to the owner. (Section 21.)

Certificate of release for ships from certain ports before admission to entry. (Sections 22.)

Release of vessels after performances of quarantine. (Section 23.)

Goods liable to quarantine may be opened and aired under the superintendence of quarantine officers, who may issue certificates of release to customs officers. (Section 24.)

Forging or altering false certificates—felony. (Section 25.)

Illegally landing, or knowingly receiving goods from vessels liable to quarantine, penalty £500. Secreting them from vessels performing quarantine, penalty £100. (Section 26).

In certain cases of infection Her Majesty in council may prohibit the sailing from the United Kingdon or the Channel Islands of vessels under 100 tons until bond for £300, with certain conditions, has been given by master. (Section 27).

Power of consuls and vice-consuls to administer oaths respecting quarantine. (Sections 28 and 29).

Time allowed for landing goods to commence from date of release from quarantine.

Quarantine laws 29 and 30 Victoria, cap. 51, enable justices or court having jurisdiction to mitigate penalties inflicted under above quoted act (6 Geo. IV, cap. 78). Every vessel having on board any person afflicted with a dangerous or infectious disorder to be deemed within provisions of the quarantine act, although such vessel has not commenced her voyage, or has come from, or is bound to, any place in the

United Kingdom. The privy council may make orders, rules, etc., (to be published in the London Gazette), as to treatment of persons affected with cholera and epidemic, endemic and contagious disease, and preventing the spread of cholera and such other diseases as well on the seas rivers, and waters of the United Kingdom, and on the high seas within 3 miles of the coast thereof, as on the land, and to deliver and determine by what nuisance authority such orders, etc., shall be enforced, and any expenses incurred by such nuisance authority shall be deemed to be expenses incurred by it in carrying into effect the nuisance removal acts (section 52). By the 35 and 36 Vict., cap. 19, sec. 52, a penalty of £50 is attached to a breach of rules, etc., made under last quoted section.

Infectious diseases of every kind on board ship are to be reported to the local authorities. Chicken pox is deemed infectious.

Officers of customs are to inform local authorities of infectious diseases, except those which are quarantinable in this country, viz, yellow fever and plague.

Flag for quarantine service: A yellow flag, with the custom-house seal of office inscribed on the center, is to be used in the quarantine service, and is to be hoisted on board boats upon all occasions when employed in that service.

Vessels putting into port without consular bill of health: The privy council have directed that vessels which, being bound to continental ports, put into British ports for coal on account of stress of weather, or from other unforeseen circumstances, are not to be required by the officers of customs to produce a British consular bill of health or a visa of a British consular officer in giving pratique to ships arriving in the United Kingdom when they are bound to continental ports and when the masters possess a foreign clean bill of health, and there does not exist or has not existed any contagious disease (plague or yellow fever) during the voyage.

Vessels from the Mediterranean should produce a bill of health, either a British consular one or a foreign one duly signed by a British consul. On the production of this, the health of the crew being found satisfactory, the vessel is immediately admitted to free pratique. In the absence of such a bill of health, or the production of a foul one, or if sickness of any kind of a suspicious nature has prevailed during the voyage, the vessel is detained and the circumstances reported to the board of customs for instructions.

Army, navy, and foreign war ships: The practice of admitting to free pratique, with or without clean bills of health, vessels connected with the army and navy, particularly those having troops on board, was abolished in 1875, but ships of war of this and other nations, arriving from the Mediterranean or from the west coast of Barbary on the Atlantic, are to be released immediately upon their arrival on the officer in command declaring that all persons on board are and have been free from any disease of a suspicious nature during the voyage.

Vessels from ports or places placed under special quarantine restrictions by order in council.—These include scheduled ports in North Germany, Denmark, Sweden, North Russia, South Russia, Roumanian and Turkish ports in the Black Sea, Sea of Azov, and Sea of Marmora.

Bills of health are not required. If sickness has occurred during the homeward voyage, the vessel is detained, medically inspected, and the circumstances of the case duly reported.

Interrogation of masters as to the health of their crews.—The verbal interrogations as to the health of all persons on board his ship put to the master of every vessel from foreign ports by the quarantine officer

are now similar at all ports in the United Kingdom. The practice pursued is as follows: Every vessel arriving at a port in the United Kingdom is bound to hoist her colors by day and to exhibit a light by night on reaching the quarantine ground (or boarding station) for the information of the boarding officer. The officer then visits the vessel and interrogates the master as to the health of the crew and passengers (if any) and whether any death or sickness has occurred on board during the voyage, whether he has any bill of health, and if from the Mediterranean, British consul's bill of health, failing which the vessel is detained and the case reported to the board of customs.

If all questions are answered in a satisfactory manner the vessel is allowed free pratique and the "quarantine certificate" issued, without which no vessel is allowed to report.

If there has been any sickness of an infectious or contagious character, or even of a doubtful nature, or the character of which is unknown by the master, the vessel is detained and inspected by the proper medical officer.

Should a vessel arrive from any port infected with cholera or "suspected," the printed cholera questions are put, and if the answers are satisfactory the vessel is cleared; but if otherwise, she is detained; the medical officer of health (the sanitary authority, local authority, or nuisance authority, as the case may be) is immediately apprized, and on the receipt of a certificate from such medical officer that there is no infectious illness on board the vessel is allowed to proceed.

Every vessel from foreign ports, without an exception, is questioned verbally as to the health of all persons on board, but as regards the continental passenger ships, to prevent unnecessary delay the questions are put in as brief and condensed a manner as possible.

Orders on quarantine.—Powers conferred on privy council for prevention of disease, etc., amongst others, the "disease-prevention act, 1855," "the sanitary act, 1886," were, so far as regards England and Wales, transferred to the local government board by "local government act, 1871," and the "public-health act."

For Scotland orders are issued by the privy council under the "quarantine act," 6 Geo., IV, cap. 78.

For Ireland, powers are conferred on the local government board under the provisions of the "quarantine act" and the "public-health act," 1874.

EVAN R. JONES, *Consul.*

UNITED STATES CONSULATE,
Cardiff, September 3, 1889.

BRISTOL.

REPORT BY CONSUL DELILLE.

PORT AND HARBOR.

The port and harbor of Bristol extends from Hanham Mills, on the river Avon, to the mouth of the said river at Kingroad, and thence down the river Severn and the Bristol Channel from Kingroad westward to the Steep Holmes and the Flat Holmes.

The position of Bristol, at the head of the great estuary known as the Bristol Channel, which runs far up towards the middle of the southern half of England, obviously gives the port enormous advantages as the center from which sea-borne commodities can be most cheaply distrib-

uted to the Midland districts, and from which shipments from those districts can be most cheaply made for all parts of the world, notably the United States. In fact, the direct course which can be taken by vessels to and from the American continents is an immense advantage much appreciated by shipowners; and to this is added, now that the Severn Tunnel is complete, a supply of coal almost as cheap as at the coal shipping ports of South Wales.

The dock system belonging to the corporation of Bristol comprises the Bristol docks, within the city of Bristol; the Avonmouth docks, at the junction of the Avon and the Severn, on the Gloucestershire side of the Avon; and the Portishead dock, on the Bristol Channel, on the Somersetshire side of the Avon, and distant some 3 miles from its mouth. Both these last-named docks have entrances directly from the well-known roadstead of Kingroad.

The opening of the present Bristol docks to public traffic dates back to the year 1809, and was due to the conversion of about 3 miles of the then tidal river Avon into a floating harbor. For this purpose a new channel was cut for the river, to the south of the city. A spacious and commodious harbor was thus formed, comprising about 63 acres of water or dock range, close to the offices and warehouses, both public and private, in the very heart of the city, an undeniable boon to business. This floating harbor is available for large sea-going vessels, and was tenanted only a few weeks ago by the United States steam corvette, *Enterprise*, whose presence afforded the townsfolk, to judge from the hearty welcome they extended to her officers and men, infinite gratification. The total water area dammed up and kept at one level is about 85 acres.

Extensive river and harbor improvements have been undertaken of late years by the corporation of Bristol, thanks to which the sharp bends which formerly impeded the progress of the river Avon have been removed and dangerous barriers of rock in the bed of the channel have been uprooted, forming a safe passage for vessels of as much as 22 feet draft and 300 feet length. It is purposed still further to deepen and widen the river. In fact, works are now being carried out (involving a total outlay of over $400,000) which, when completed, very shortly, will render the navigation practicable for vessels of much larger dimensions.

As for Avonmouth, docks suitable for ocean vessels of the heaviest tonnage, and which were constructed by private companies, were opened there in 1877 and in 1880. In 1883 the Bristol corporation purchased the Avonmouth and Portishead docks, and these and the Bristol docks proper were thus united, by act of Parliament, on the 1st of September, 1884, as one undertaking, within the control of the corporation of the city of Bristol.

I may note as a special feature of interest that Bristol early possessed and still continues to enjoy a large share of the trade with the United States and the West Indies. Within the last ten years she has absorbed even more of the East Indian, colonial, Black Sea, and American (east and west coast) grain trade, and large shipments of petroleum are continually arriving from ports in the United States, transported in vessels belonging to Nova Scotia. It is a distinctive fact in connection with this port *that while the import dues are very low, there are no dues on exports.* The latter consist chiefly of Welsh and local coal, salt, tin plates, railway material, and machinery, manufactured oils and spirits, cotton piece goods, chemical products, spar, and general goods. Some excellent veins of steam coal, available for bunker

and other purposes, are now being worked in the vicinity of Bristol, and the exports of these coals by vessels which discharge grain and general cargoes are steadily increasing.

By means of steam and other cranes these coals can now be put on board at any one of the three docks at a very low rate.

There remains to mention but Portishead docks, which are well situated under the shelter of the Portishead Hills, and are easily accessible from Kingroad, where there is excellent anchorage at any stage of the tide. Vessels can enter or leave in any weather, and steamers enter direct from the deep fairway of the channel without the assistance of tugs.

The following tables appear useful to conclude with:

Dues payable upon shipping entering the port of Bristol.

[Per register ton.]

Description of voyage.	Bristol.	Avonmouth and Portishead.
	s. d.	s. d.
For every vessel trading from ports in Africa, South America, the United States of America, the East and West Indies, all the ports within the Straits of Gibraltar, the Southern Whale Fishery, the British Colonies, Portugal, Prussia, Russia, Spain without the Straits, and Sweden	1 1½	1 4
For every vessel trading from Flanders, France without the Straits, Germany, Guernsey, Holland, Jersey, Norway, and Zealand	9	9
For every vessel trading from Ireland, Isle of Man, Scotland, or as a coaster, outside the Bristol Channel, the western limit of which is to be taken as a line drawn direct from St. David's Head to Land's End	5	5
For every vessel trading as a coaster from ports in the Bristol Channel, not including vessels from Cardiff, Newport, and other ports to the eastward of the Holms	3½	3½
For every vessel from Cardiff, Newport, or any other port to the eastward of the Holms, not being vessels one-third part of the lading of which shall consist of coal, scroff, iron, tin, tin plates, grain, copper, bricks, stone, coal, tar, slate, bark, timber, or wood	2½	2½
Minimum of	5 0	5 0
For every vessel from Cardiff, Newport, or any other port to the eastward of the Holms, one-third part of the lading of which shall consist coal, scroff, iron, tin, tin plates, grain, copper, bricks, stone, coal, tar, slate, bark, timber, or wood, minimum of	5 0	5 0

N. B.—There are no dues levied on vessels outward bound.

Rates per ton for pilotage.

Course.	*80 and under 100.	100 and under 200.	200 and under 300.	300 and under 500.	500 and under 600.	600 and under 800.	800 and under 1,000.	1,000 and upwards.
Between—	£ s. d.	£ s. d.	£ s. d.	£ s.	£ s. d.	£ s. d.	£ s. d.	£ s.
Lundy and Combe	1 1 0	1 8	1 15 6	2 2	2 9 0	2 16	3 3 0	3 10
Lundy and Swansea or Minehead	2 2 0	2 16	3 10 0	4 4	4 18 0	5 12	6 6 0	7 0
Lundy and Bridgewater, Cardiff, or the Holms	2 12 6	3 10	4 7 6	5 5	6 2 6	7 0	7 17 6	8 15
Lundy and Newport, or Kingroad	3 3 0	4 4	5 5 0	6 6	7 7 0	8 8	9 9 0	10 10
Coombe, and Minehead	1 1 0	1 8	1 15 6	2 2	2 9 0	2 16	3 3 0	3 10
Coombe and Bridgewater, Cardiff, or the Holms	1 11 6	2 2	2 12 6	3 3	3 13 6	4 4	4 14 6	5 5
Coombe and Newport, or Kingroad	2 2 0	2 16	3 10 0	4 4	4 18 0	5 12	6 6 0	7 0
Minehead and Bridgewater, Cardiff, or the Holms	10 6	14	17 6	1 1	1 4 6	1 8	1 11 6	1 15
Minehead and Newport or Kingroad	1 1 0	1 8	1 15 0	2 2	2 9 0	2 16	3 3 0	3 10
Between any of the following places: Portishead, Kingroad, Hungroad, Broad Pill, Cumberland or Bathurst Basins, and any other of such places	10 0	15	1 0 0	1 5	1 10 0	1 15	2 0 0	2 5
Between any two of the following places, viz: Bridgewater, Cardiff, the Holms, Newport, and Kingroad	10 6	14	17 6	1 1	1 4 6	1 8	1 11 6	1 15

*If under 80 tons, 7s. 6d.

MARITIME QUARANTINE.

The earliest enactment was in the early part of last century, all previous orders as to infection having been issued by the King in person, or by municipal authorities at the instance of a royal proclamation, and being more in the nature of local regulations for preventing spread of the disease already imported.

These acts were directed chiefly against the plague, which, after 1665, ceased to appear epidemically, and in 1679 ceased entirely.

The 1710 quarantine act was passed in apprehension of the plague, then in the Baltic ports, and was followed by acts in 1721, 1733, 1743, 1753, 1788, 1800, and 1805.

In 1825 an act, still in force, was passed, but its provisions, cumbrous and obsolete, have been since relaxed, especially in 1844 and 1849, in which latter year the general board of health recommended the abolition of all quarantine regulations and the substitution of sanitary measures in the ports of arrival and departure.

Quarantine is now practically obsolete in England, and Sir John Simon has shown it to be unnecessary and ineffective.

The quarantine regulations as to plague and yellow fever are still in force, more to conform to customs of foreign ports than with any real sanitary object.

The system of medical inspection is substituted for quarantine as a safer and more useful measure.

Cholera, for example, has not been dealt with since 1858 by quarantine.

Present precautions against cholera are laid down in the general order of the local government board of July 12, 1883, the provisions of which are briefly:

MEDICAL INSPECTION.

(1) On arrival an infected or suspected ship is detained by customs for 12 hours to allow of visit of medical officer of health. Vessel is bound to anchor where directed, and no one may leave her.

(2) Medical officer of health visits ship and examines each one of crew, giving certificate stating infection to master and retaining duplicate from sanitary authority.

(3) Every person actually ill or sickening is removed to hospital on shore, or if not fit for removal remains in ship, which is then subject to control of medical officer of health.

(4) Any suspicious case may be detained for 2 days for observation in hospital or on board.

(5) All the healthy are allowed to leave, but their places of destination are taken and the sanitary authority of the places apprised.

(6) Disinfection and necessary precautions are taken and ship cleared.

Plague and yellow fever never, or hardly threaten. If they appeared probably similar precautions, with immediate notification to Government department, would be taken.

Scarlet fever, enteric fever, smallpox, etc., are not subject to quarantine. The customs officer on learning of the existence of a case detains ship for visit of medical officer of health, who removes patient to port hospital, disinfects, and examines crew; ship is then cleared.

In Bristol we have a port hospital at river mouth, where live an inspector and a boatman. All ships are visited here or on arrival in the city harbor by another inspector.

Regulations served on master and inquiries made. Nuisances and cleansing also dealt with.

In every case the port sanitary authority works with the customs officers, who render every assistance.

JOHN D. DELILLE,
Consul.

UNITED STATES CONSULATE,
Bristol, November 25, 1889.

CORK.

REPORT BY CONSUL PIATT.

PILOTAGE.

Pilotage is not compulsory at this or any port in my consular district, except Waterford, and the same rates are charged to British as to foreign vessels. All vessels, whether in distress or otherwise, that engage the service of a pilot here, have to pay for pilotage. At Waterford pilotage is compulsory upon all vessels entering or clearing from the port, irrespective of nationality. Coasting vessels are exempted only when the masters of such vessels hold a pilot's license, which enables them to pilot their own vessels. Pilotage there, as at Cork, is charged on the net register tonnage, but vessels coming in wind-bound or in distress are not compelled to take a pilot, nor does compulsory pilotage apply to vessels of war.

No foreign flag enjoys special privileges in regard to pilotage.

LIGHTS AND LIGHT DUES.

Light dues are levied upon all vessels, laden or partly laden, upon the net register tonnage, and are charged from one port of Great Britain and Ireland to another. Vessels, laden or partly laden, bound to foreign ports are charged for coast lights outward; vessels in ballast are not charged. The payment of light dues here (this being a port of call) exempts a vessel from future payment of dues for the voyage. These dues are collected in each case from the shipmaster through his local agent. There is no discrimination for or against any nationality, all vessels paying equally according to tonnage, whether in the coasting or foreign trade.

The lights on this coast are considered among the best in the United Kingdom, and they are placed at such distances from each other that in ordinary weather a vessel after passing one light can see that next to it. The altitude of the lights on this coast is from about 60 to 120 feet above the level of the sea.

TONNAGE DUES.

Tonnage dues are levied upon and collected from all classes of vessels, except vessels of war, whether steam or sail, in the foreign or coasting trade, laden or in ballast, there being no discrimination in regard to flag. No special privileges are enjoyed by the vessels of any nationality.

QUARANTINE.

All contagious diseases are quarantined at this port, and all vessels coming from the Mediterranean and certain West Indian ports are quarantined until boarded by the custom-house authorities; this boarding takes place immediately after each vessel's arrival. The vessel bears the expense of detention or fumigation when necessary. At Waterford no quarantine is in force, I am informed, except where there is plague, yellow fever, or cholera on board, when vessels so infected receive pratique as soon as patients are put into hospital and the ship is properly fumigated, the expense of which is borne by the local board of guardians, *i. e.*, the poor-law board. In cases where ships arrive having fevers, smallpox, or other contagious diseases on board, the medical inspector of the local government board (Dublin) is communicated with, when the officer visits the vessel, sends patients to hospital, has the vessel fumigated, and permits her to proceed to the city, if bound thither.

Quarantine rules are made by the General Government.

JOHN J. PIATT,
Consul.

UNITED STATES CONSULATE,
Cork, August 15, 1889.

LEITH.

REPORT BY CONSUL BRUCE.

Responding to the harbor circular received from the Department of State, calling for a report upon certain interrogatories, I respectfully submit the following statement, which sets forth in the order given in the circular the answers to same.

PILOTAGE.

Pilotage is in no instance compulsory. The pilot charges paid by foreign vessels are the same as those paid by vessels of this country. No special privilege is enjoyed by any foreign flag in respect of pilot charges. Vessels in distress and foreign war vessels, as also every other vessel that employs a pilot, must pay the charges for pilotage.

A printed copy (marked A) of the regulations observed in piloting vessels at the port and harbor of Leith accompanies this report.*

LIGHT DUES.

Light dues are paid on steam and sail when laden only. A certain rate is charged for each light passed on continuation of a voyage from port to port in the United Kingdom. A light is held to be so passed when a vessel in its voyage has come or should have come within the radius of said light. These dues are only payable when lights are passed.

As to the general character of lights, altitude, distance visible, etc., I herewith inclose a printed copy of the admiralty list of lights in Scotland and islands adjacent thereto, which gives the fullest information

* For pilotage rates and regulations see report by Consul Jones, of Cardiff, for the United Kingdom.

to be obtained on the subject, and which could not conveniently nor so satisfactorily have been given in manuscript form. (See Supplement.)

Accompanying the admiralty list is a valuable key to it, with which I have been specially favored by the secretary of the northern lights commission, entitled "Chart showing the positions of the northern light-houses." The said chart was compiled and published in 1887, but by the kindness of the secretary I have received it from him amended and complete to the present date. (See Supplement).

The rate charged per ton per foot of draft per voyage, etc., on vessels of every flag is as follows: By Pentland Firth, 12*d.* per ton and 8*d.* per vessel; by channel, $17\frac{1}{16}d.$ per ton inwards and $16\frac{1}{16}d.$ per ton outwards. The net registered tonnage is the basis of the charge.

Light dues are collected by the customs officers through the agents for the vessel. There is no discrimination whatever in collecting said dues either in favor of or against vessels of the United States.

The shipping of this country, whether engaged in the foreign or coasting trade, is charged light-house dues in common with vessels of a foreign flag, and these charges are precisely the same as those chargep vessels of the United States.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels, whether on the foreign or coasting trade, laden or in ballast. There is no discrimination in regard to flag. No special privileges are enjoyed by vessels of any nationality.

Much additional information on the subject of tonnage dues is contained in the inclosed printed pamphlet, entitled "Tables of rates payable at the harbor and docks of Leith" (as readjusted), which fully sets forth the rates per ton charged on goods inward and outward and on all vessels entering the docks, as also the charges for other dock accommodation or services.

QUARANTINE.

The rules observed at the port of Leith relative to quarantine are hereinunder given, being copied from the handbook now used by the superintendent of quarantine at Leith.

These rules are based on an act of the British Parliament called the quarantine act—a printed copy of which accompanies this report—passed June 27, 1825, which consolidated the laws relating to quarantine; also on certain orders issued at various times since then by the privy council, the board of supervision, and customs authorities.

RULES.

1. *All vessels must be questioned.*—All vessels from foreign ports are liable to quarantine interrogation.
2. *Coasters subject to quarantine.*—Any vessel, whether coastwise or foreign, being in any river or within 3 miles of the coast of the United Kingdom, having a dangerous or infectious disorder on board, is subject to quarantine.
3. *Yachts.*—Yachts must come to at the boarding station for examination.
4. *Ships of war.*—Ships of war from any quarantine port to be admitted to free pratique on the commanding officer declaring that no contagious disease has existed on board during the voyage.
5. *Quarantine officers.*—It is the duty of the officers of customs to enforce all quarantine regulations issued by order in council under the provisions of the act.
6. *Vessels to come to at boarding station.*—All vessels from foreign ports must come to at the proper boarding station in order that the health of the crew and passengers may be ascertained.

7. *Boarding station.*—The boarding station for the port of Leith is between the Martello Tower, Leith, and the Chain Pier, Newhaven.

8. *What vessels for Leith to come to in the Firth of Forth.*—Vessels requiring medical inspection, also vessels coming from any place proclaimed by order of council to be infected or suspected of being infected with yellow fever, and vessels from the Mediterranean Sea without British consular bill of health, also vessels from west coast of Africa, and vessels infected with cholera, must come to in the Firth of Forth for examination.

9. *Certain limits proclaimed to be infected.*—Places now deemed to be infected with yellow fever, all ports or places situate within 4° and 40° south latitude and 35° and 60° west longitude, and the Island of Cuba. The following are some of the principal places within the limits, viz: Havana, Matanzas, Santiago, Rio Grande du Nord, Rio Grande du Sol, Bahia, Rio Janeiro, Parahiba, Santos, Montevideo, Buenos Ayres, Rosario, Aracaty, Parana, Maceio.

10. *Leith boarding station for vessels requiring medical inspection.*—Boarding station in the Firth of Forth for vessels requiring special quarantine inspection is between the Martello Tower, Leith, and the chain pier at Newhaven; or, as otherwise defined, "that part of Leith Roads 1¼ miles or thereby north-northwest (magnetic) from the light-house on the west pier in 5¼ fathoms at low water."

11. *What vessels may be released at west pier, the entrance to the harbor and docks of Leith.*—Vessels arriving at the west pier must be interrogated verbally as to the health of those on board; and if all are well and no sickness has occurred, and the vessel is not from a port within the limits prescribed by order in council or from the Mediterranean without a British consular clean bill of health she may be released and the certificate issued (without which the master can not report.

12. *Master's answers to be noted in pocket journal.*—The answers to the verbal questions to be noted in the examining officer's pocket journal in the following manner: "The usual questions were put and the answers satisfactory."

13. *Yellow flag.*—All vessels from the Mediterranean must fly the yellow flag on arrival. Other vessels are not to fly the yellow flag unless yellow fever exists on board or has existed during the voyage.

14. *Vessels with clean bill from the Mediterranean may enter the docks.*—Vessels from the Mediterranean to Leith with clean bills of health, all being well on board, may enter the docks or basins, keeping the yellow flag flying, and not having any intercourse with the shore until pratique is obtained.

15, 16. *Printed questions to be put to certain vessels.*—The several printed quarantine questions should be put to the masters of the vessels requiring special inspection, viz, the preliminary questions, 340 (marked G), should be put to the masters of all vessels with sickness on board or having had any sickness or deaths during the voyage, also to all vessels from the prescribed limits, or from any suspected port.

The questions to masters and surgeons, 26 (marked H), should be put to all vessels from ports outside the Mediterranean when a surgeon is on board. The cholera questions, 27 (marked I), should be put to masters of all vessels infected with cholera, or arriving from any port suspected to be infected with cholera in addition to the questions prescribed in the preceding paragraphs.

17. *Doctors to sign quarantine sheet.*—When the medical officer of quarantine attends, he should sign the quarantine paper, as well as give a certificate of the result of his examination.

18. *Vessels to be visited night or day.*—Vessels to be visited immediately on arrival, night or day.

19. *Vessels not to be boarded until they arrive at the boarding station.*—Officers are not to board vessels until they arrive at the station, without the collector's special sanction.

23. *Vessels with foul bills of health.*—Vessels from the Mediterranean with foul bills of health, all on board being in good health and there having been no sickness or deaths during the voyage, may be released on arrival by the collector.

The officers on quarantine duty are to be informed that all vessels coming into port with foul bills of health are to be taken to the quarantine ground approved for such vessels, by order in council October 24, 1867, and pratique is only to be given by the collector under the authority of the board's order August 16, 1883. Should the collector, however, not be in attendance at the time, the inspector, or in his absence the water-guard surveyor, is to have power to give the requisite authority.

This power to be extended to vessels arriving with no consular bill outside the legal hour.

When vessels have a clean bill of health from Gibraltar for that locality only, and bring foul bills from other ports (not having been released from quarantine at Gibraltar) such vessels are to be considered as having foul bills of health.

24. *Vessels with no consular bill to be detained.*—Vessels from the Mediterranean with no consular bill, or with an informal bill, must be detained and reported to the board.

The master can obtain release by telegram on bearing expense of message.—Collector's order, November 7, 1883.

25. *Collectors may release in certain cases.*—When these vessels arrive too late in the day for a telegram to reach the board before 4 p. m., or on Sunday or holiday, and when there is not nor has been any sickness on board, the collector or principal officer at the port may grant pratique, reporting to the board without delay, it being distinctly understood that this duty is not to be delegated to the officers generally. This concession is not to apply in cases where it may be deemed necessary to obtain the board's directions.

In reporting the case to the collector, the officer is to state whether there has been any sickness during the voyage.—Waterguard surveyor's order, July 24, 1885.

26. *Vessels putting in to coal need not have British consular bill.*—British consular bill need not be required for vessels bound to a continental port and putting into a British port to coal, provided there does not exist, nor has existed, any contagious disease (plague or yellow fever) on board.

27. *Bills of health to be returned to masters in certain cases.*—Bills of health to be returned to the master when the vessel is proceeding to another port in Europe.

28. *Bills of health not required for vessels from the prescribed limits.*—Bills of health are not required from places placed under special quarantine restrictions outside the Mediterranean.

Memorandum issued with General Orders, June 3, 1889: In respect to vessels arriving from the Mediterranean, the master is required to produce a bill of health, viz: A British consular one, or a foreign one duly signed by a British consul, or by some other person duly authorized by the regulations where there is not a British consul. On the production of this document in proper form, and on the health of the crew being found in a satisfactory condition, the vessel is immediately admitted to free pratique. In the absence of such bill of health, or the production of a foul one, or if sickness of a suspicious nature has prevailed during the voyage, the vessel is detained and the circumstances reported for the board's directions.

Vessels from ports or places placed under special quarantine restrictions by orders in council, the master is not required to produce a bill of health with a view to admitting the vessel to pratique. A strict examination is made of these vessels with reference to the state of the health of the crew, and at the discretion of the officers they may be detained for medical inspection, but if there has not been any sickness during the homeward voyage (which has occupied not less than 20 days—B. O., March 24, 1873), the medical inspection is dispensed with, and the vessel is allowed free pratique by the quarantine officer without detention for the board's directions. If sickness has occurred during the homeward voyage, the vessel is detained, medically inspected, and the case is reported for the board's direction.

29. *Vessels having had yellow fever on board, when to be released.*—Vessels coming from any place are not to be detained in quarantine on account of yellow fever if the officers can satisfy themselves on the following points:

(1) That the bodies of any persons having died on board from yellow fever during the voyage had been immediately committed to the deep.

(2) That their bedding, clothing, and other like articles which may have been fouled with discharges from the sick, had been destroyed, or if not destroyed, properly disinfected to the satisfaction of the medical officer of quarantine at the port of arrival.

(3) That no case of death from yellow fever had occurred within 6 clear days of the arrival of the vessel in port.

The 20, 10, and 6 days, mentioned above, are calculated exclusive of the days of sailing and arrival.

30. *Vessels with cholera on board, how to be treated.*—Vessels infected with cholera, or choleraic diarrhea, are to be detained and the local sanitary authority informed on the attendance and certificate of the medical officer of health; or in the event of his not attending, at the expiration of 12 hours the vessel is to be released.

31. *Local sanitary authority to be informed.*—Vessels infected with cholera or arriving from a port suspected to be infected with cholera, the cholera questions, No. 27, are to be put to the master, and when necessary the sanitary authority to be notified on the "form of notice to sanitary authority," No. 28 (marked J).

32. *Vessels with infectious disease, local authority to be advised.*—Vessels arriving with cholera, smallpox, chicken pox, typhus or typhoid fever, or any other infectious disease on board, the proper officers are to communicate directly with the local authority. (See paragraph 36.)

33. *Local authority not to be informed of plague or yellow fever.*—Vessels arriving with plague or yellow fever on board are to be placed under quarantine and the officers are not to inform the local authority until the quarantine regulations have been duly enforced.

34. *Place for vessels to perform quarantine.*—Vessels to perform quarantine in that

part of Leith Roads 1¼ miles or thereby north-northwest (magnetic) from the lighthouse on the west pier in 5½ fathoms at low water.

35. *Doctors called.*—Vessels arriving from any port with sickness on board of a doubtful or suspicious nature, the medical officer of quarantine should be called in.

36. *Vessels with infectious disease not to be detained.*—Vessels arriving with infectious disease on board, the character of which is well known (excepting plague or yellow fever), need not be detained temporarily for medical inspection, but at once released, and the local sanitary authority to be informed.—Collector's order, May 2, 1865.

37. *Persons not to leave vessels before pratique has been obtained.*—Persons leaving any ship liable to quarantine before the health of the crew and passengers has been ascertained by the proper officers, liable to a penalty not exceeding £100.

38. *Persons allowed to land before formal release.*—The officers are authorized to exercise a discretionary power in allowing persons to leave the ship before the formal order for release is received, on the following conditions, viz:

The officers to be satisfied that there has been no sickness on board.

That the master is in possession of a clean foreign bill of health, and that the release of the vessel is delayed through a mere informality of the evidence required by the quarantine act.

39. *Steam tug to be used for quarantine duty.*—Steam tug to be employed by the tide surveyors for quarantine duty in tempestuous weather, at an expense of not exceeding £2 on each occasion.

40. *Out-door officers not to be boarded on infected vessels.*—Out-door officers are not to be boarded on infected ships, but other measures are to be taken to guard them if necessary.

41. *Mail bags, how to be treated.*—Mail bags are not to be detained, but letters and mail bags to be disinfected on board the vessel in the following manner:

A deep jar containing copper shavings and concentrated nitric acid, in the proportion of 1 ounce of copper to 3 ounces of acid, should be placed in the center of the mail bags, which should be covered with tarpaulin, so as to insure their being thoroughly saturated with the fumes of the nitrous acid gas, for at least half an hour.

42. *Disinfection.*—The following is a letter from Dr. Reginald Harrison, giving a detailed description of his mode of disinfecting vessels:

"OCTOBER, 1879.

"*The ship.*—I see that the bilges are disinfected and thoroughly cleansed and washed out. For their disinfection I make use of chloride of lime (Burnett's solution); I also see that all parts of the vessel used for the accommodation of the passengers or crew are disinfected by means of chloride of lime.

"The cabins or berths occupied by the sick I fumigate; to do this I place in them metal pans containing burning sulphur, first taking care to render them as air-tight as possible by closing all windows, doors, and other communications, and stopping up any apertures by which the sulphur fumes could escape; these apartments are then kept closed, and submitted to the action of the sulphur fumes for not less than 48 hours. The water closets and urinals should be thoroughly washed out with carbolic acid and water.

"*The cargo.*—The nature of the cargo may possibly require some modification in the mode of disinfection, dependent upon what it chiefly consists of. I have not found it necessary to recommend in any instance the unloading of the cargo into lighters or hulks as a preliminary to the process of disinfection, as I have been able to satisfy myself in such instances as have come under my observation that the fumigation employed has been sufficient. The generation of sulphur fumes is not as a rule applicable to the cargo, as it necessitates the use of fire, which would be dangerous in the cases of cargoes entirely composed of inflammable materials or capable of generating combustible or explosive gases. For this purpose fumigation by nitrous-acid fumes will be found most generally applicable, this vapor being highly pungent and penetrating, and is, I believe, most destructive to such agencies as are likely to spread infectious diseases. These fumes are readily obtainable, either by placing niter in sulphuric acid, or more simply by putting pieces of copper in nitric acid and a little water. I place the jars used for generating these fumes within the hold of the vessel and in convenient places among the cargo; the jars having been thus introduced, the hatches are battened down with the same care as is taken in preventing water making its way among the cargo. The atmosphere of the hold of the ship as well as the cargo is subject to the action of these fumes for at least 48 hours, when the hatches are removed and the circulation of the air in the hold of the ship is promoted by ventilation.

"In the case of coal on board required for the use of the ship, and that contained in the bunkers, I have submitted these to fumigation by nitrous-acid fumes, or disinfected them by means of carbolic acid and water.

"*The bedding and clothing.*—All solid bedding and clothing, if not previously destroyed before the vessel's arrival in port, I have burnt, or if not actually soiled

with the discharge of the sick, I have them submitted to the action of sulphur fumes, as used in the fumigation of the cabins and berths.

"In the case of more persons on board who have suffered from such a disease as to render the vessel's detention in quarantine necessary, I have required (when circumstances have not rendered it necessary that they should perform quarantine in a place provided for that purpose) that before the vessel is released from quarantine, in addition to fumigation of their wearing apparel and personal effects, they should be disinfected by means of a thorough ablution with water sufficiently mixed, either with Condy's fluid (solution of permanganate of potash) or carbolic acid."

MEMORANDUM ISSUED FEBRUARY 27, 1889, BY THE CUSTOM-HOUSE, LONDON.

Regulations as to vessels arriving with smallpox.—The attention of the board having been called to certain "directions and regulations under part III of the public health (Scotland) act 1867," issued on the 15th ultimo by the board of supervision, Edinburgh, to local authorities in Scotland, containing regulations as to detention by officers of customs of vessels infected with smallpox arriving at ports in Scotland, the board direct that in the event of a vessel arriving at any port in Scotland in which there is or has been during the voyage, or during her stay in a port in the course of the voyage, any case of smallpox, the master be informed by the quarantine boarding officer that before unloading any cargo or holding any communication with the shore he should proceed to the place of sanitation which has been marked out by the local authority, and be warned that noncompliance will render him liable to a penalty.

The officers will also, in every such case, immediately inform the local authority as required by general order.

List of diseases quarantined.—Every vessel having on board any person affected with a dangerous or infectious disorder is deemed to be within the provisions of the quarantine act (6 George IV, c. 78), and is subject to quarantine although such vessel has not commenced her voyage, or has come from or is bound to some place in the United Kingdom. (*Vide* No. 2 of foregoing rules as to quarantine.)

Vessels infected with cholera or choleraic diarrhea are to be detained and the local sanitary authority informed. (*Vide* rule No. 30, also No. 31.)

Vessels arriving with cholera, smallpox, chicken pox, typhus or typhoid fever, or any other infectious disease on board, the proper officers are to communicate directly with the local sanitary authority. (*Vide* rule No. 32, also No. 36.)

Vessels arriving with plague or yellow fever on board are to be placed under quarantine and the officers are not to inform the local sanitary authority until the quarantine regulations have been duly enforced. (*Vide* rule No. 33.)

Duration of quarantine for each and from each port.—The medical officer admits to pratique or to come into port as speedily as public safety warrants.

The local authorities fumigate ships and remove patients same as on shore or in house visitations. The expenses of detention have to be borne by the owners of vessel.

The supreme authority in matters relating to quarantine is the Government. The Government makes the statutes rerarding quarantine with power to the privy council to frame such by-laws or such occasional instructions as may meet emergencies arising.

In Scotland the board of supervision having the enforcement of the public health act, 1867, form the medium of communication between the privy council and the local sanitary authority.

WALLACE BRUCE,
Consul.

UNITED STATES CONSULATE,
Leith, December 31, 1889.

LIVERPOOL.

PILOTAGE.

In this consular district pilotage is compulsory, as well for British as for foreign vessels, in all cases, excepting coasting vessels and vessels under 100 tons register.

Pilot charges are the same for vessels of the country as for foreign vessels. No foreign flag enjoys special privileges in this regard. Vessels in distress and foreign war vessels pay pilotage the same as other vessels.

LIGHT DUES.

Light dues are levied on the net tonnage, deck cargoes additional (see Tables 1 to 9 herewith).

The Liverpool local light charges are covered by the dock tonnage and harbor rates. No light dues are charged for any vessel in ballast, whether steam or sail. Dues are not payable at more than one port in the same country during the same voyage.

Dues are payable only for the lights from which benefit is derived.

Light dues are collected by the custom-house, and generally from the agent of the vessel.

There is no discrimination in favor of or against the United States.

Light-house dues are collected from British the same as from foreign shipping.

TONNAGE DUES.

No dues other than those for lights are levied on shipping by the crown. Tonnage dues are collected by the local authorities of the port on all vessels and their cargoes. (See tables of rates and dues of Mersey dock and harbor board inclosed.) There is no discrimination in regard to flag.

QUARANTINE.

By the quarantine act of the sixth year of King George IV, the privy council have power to place in quarantine any vessel which has or has had on board any cases of yellow fever or plague.

All vessels having or having had cholera, typhus, typhoid, or scarlet fever, smallpox, or any other contagious disease, are dealt with by the port sanitary medical officer they are not quarantined. The patients on such vessels are removed to hospital and the vessel disinfected.

The vessel bears the expenses of detention and fumigation as to passengers and cargo.

The local authority has given to it by the public health act, 1875, every power necessary for the inspection, examination, and disinfection of ships, as well as for the removal to the hospital of infected persons, and further, the local authority is fully provided with the means and appliances requisite for the proper performance of these duties.

In this connection I inclose a pamphlet entitled "The port sanitary authority, Liverpool, and its work."

THOS. H. SHERMAN,
Consul.

UNITED STATES CONSULATE,
Liverpool, September, 1889.

LIVERPOOL LIGHT CHARGES.

*Tables of duties for lights, buoys, and beacons, levied on vessels arriving at or departing from the port of Liverpool.**

[Inclosure 1 in Consul Sherman's report.]

1.—SOUTH ABOUT VOYAGES.

From Beaumaris, Bangor, Conway, Chester, Liverpool, and Runcorn, to and from—	Lights, etc., payable. (Those underlined are local; they must be referred to at pages 1 and 2, Table No. 4, and the charges must be added when due.)	Per ton.
		Pence.
Bergen and all ports north of it, east of Great Britain. Ports in the Sleeve and Baltic, and in Norway, south of Bergen. Ports south of the Sleeve to the Eyder.	Winterton to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, Lemen and Ower, *Conway Buoys, Menai, Air.*	13 3/16
Ports in the Eyder and south of it to Norden.	Kentish Knock to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, Heligoland, *Conway Buoys*, and *Menai, Air.*	11 1/16
Norden and ports south to Rotterdam..	Kentish Knock to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	10 1/16
Rotterdam and ports south to Antwerp.	Forelands to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	10 1/16
Antwerp and ports south to Dunkirk, inclusive.		
Ports west and south of Dunkirk to Cape Grisnes.	Forelands, Varne to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	9 1/16
Cape Grisnes and ports south to Boulogne, inclusive.	Dungeness to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	9 3/16
Ports south of Boulogne to Dieppe, inclusive.	Beachy Head to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	9 3/16
Ports west and south of Dieppe to Isigny.	Owers to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	8 1/16
Isigny and ports west to Cherbourg....	Needles to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	8 3/16
Cherbourg and ports west to Cape La Hogue.	Shambles to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	7 1/16
Ports south and west of Cape La Hogue to St. Brieux.	Caskets to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	7 1/16
St. Brieux.....	Hanois, Edystone to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	7 3/16
Ports west of St. Brieux to Morlaix....	Eddystone to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	7
Morlaix	Lizard to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	6 3/16
Ports west of Morlaix to Brest, inclusive, and Ushant.	Wolf Rock to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	6 3/16
Ports in Bay of Biscay†.....	Wolf Rock to Seven Stones, Trevose, Milford to Skerries, *Conway Buoys, Menai, Air*	6 1/16
Ports South of Cape Finnisterre, Gibraltar, and ports within the straits.‡	Wolf Rock to Seven Stones, Trevose, Milford to Skerries, Minehead to Calf Rock, Gibraltar, *Conway Buoys, Menai, Air.*	7 3/16
America and West Indies, *via* west of Azores.	Milford to Skerries, Minehead to Skelligs, *Conway Buoys, Menai, Air.*	6

NOTE.—The Cardigan Bay, included in the above rates is not due *from* Beaumaris, Bangor, Conway, Chester, Liverpool, Runcorn, to any of the foregoing ports; deduct 1/16d. per ton in such cases.

*In reading these tables the following explanation is useful: Take, for instance, the first voyage mentioned in Table 1, Bergen and all ports north of it, east of Great Britain. Lights payable for this voyage are Winterton to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, Leman and Ower, Conway Buoys, Menai, Air, 13 3/16 pence.

To find what lights are charged for between Winterton and Caskets, turn to Table No. 9, and find Winterton at 27, go down the list to Caskets at 48, and it will be seen that there are nineteen lights between Winterton and Caskets. Then between Start and Scilly are four lights, and so on. The total 13 3/16 pence is made up of the charges shown in Table No. 9.

Conway Buoys, Menai, and Air (in italic) being local are shown in Table No. 4, and the rates there given are collected for the local authorities, and are not included in the total 13 3/16 pence.

†The Wolf and Seven Stones will not be due on these voyages, unless vessels navigate between the Land's End and the Scilly Islands; deduct 1/16d. per ton when the outside route is taken.

‡On this voyage one shilling per vessel is charged in addition to the regular rate per ton.

LIVERPOOL LIGHT CHARGES—continued.

Tables of duties for lights, buoys, and beacons, levied on vessels, etc.—Continued.

2. NORTH ABOUT VOYAGES.

From Beaumaris, Bangor, Conway, Chester, Liverpool, Runcorn, Preston, north about by east of Isle of Man, to and from—	Lights, etc., payable. (Those underlined are local; they must be referred to at pages Nos. 1 and 2, Table No. 4, and the charges must be added when due.)	Per ton.
		Pence.
All ports south of Cape Cod, United States or Great Britain, through the Atlantic.	Calf of Man, South Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Skerryvore, Arranmore to Fannet Point, Morecambe Bay, Bahama Bank, *Loch Ryan, Devaar, Conway Buoys, Menai Air.*	7 1/16
Any port between Cape Farewell, Greenland, and Cape Cod, United States.	Calf of Man, South Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Skerryvore, Barrahead, Morecambe Bay, Bahama Bank, Monach, *Loch Ryan, Devaar, Conway Buoys, Menai, Air.*	8
Any port north of Cape Farewell, west of Great Britain.	Calf of Man, South Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Cape Wrath, Morecambe Bay, Bahama Bank, *Loch Ryan, Devaar, Conway Buoys, Menai, Air.*	10 5/16
Ports north of the Naze of Norway, east of Great Britain.	North Unst to Noss Head, Calf of Man, South Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Bressay Sound, Morecambe Bay, Bahama Bank, *Loch Ryan, Devaar, Conway Buoys, Menai, Air.*	18
Ports in the Sleeve and Baltic and south of the Sleeve to the Eyder.	North Ronaldshoy to Noss Head, Kinnairds Head, Calf of Man, South Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, Bahama Bank, *Loch Ryan, Devaar, Conway Buoys, Menai, Air.*	15 3/16
Ports in the Eydor and south of it to Norden.	Anskerry to Noss Head, Kinnairds Head to Montroseness, Calf of Man, South Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Heligoland, Morecambe Bay, Bahama Bank, *Loch Ryan, Devaar, Conway Buoys, Menai, Air.*	17
Norden and ports south of it to the Texel.	Anskerry to Noss Head, Kinnairds Head to Montroseness, Calf of Man, South Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, Bahama Bank, *Loch Ryan, Devaar, Conway Buoys, Menai, Air.*	16
The Texel and ports south to Rotterdam.	Anskerry to Noss Head, Kinnairds Head to Spurn Shore, Calf of Man, South Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, Bahama Bank, *Loch Ryan, Devaar, Conway Buoys, Menai, Air.*	19 3/16
Rotterdam and ports south to Antwerp, inclusive.	Anskerry to Noss Head, Kinnairds Head to Lowestoft, Calf of Man, South Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, Bahama Bank, *Loch Ryan, Devaar, Conway Buoys, Menai, Air.*	21 1/16

3. NORTH ABOUT BY WEST OF THE ISLE OF MAN.

All ports south of Cape Cod, United States or Great Britain, through the Atlantic.	Skerries, Calf of Man to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Skerryvore, Arranmore to Fannet Point, Morecambe Bay, *Loch Ryan, Devaar, Menai, Air.*	8 1/16
Any port between Cape Farewell, Greenland, and Cape Cod, United States.	Skerries, Calf of Man to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Skerryvore, Barrahead, Morecambe Bay, Monach, *Loch Ryan, Devaar, Menai, Air.*	9
Any port north of Cape Farewell, west of Great Britain.	Skerries, Calf of Man to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Cape Wrath, Morecambe Bay, *Loch Ryan, Devaar, Menai, Air.*	11 5/16
Ports north of the Naze of Norway, east of Great Britain.	North Unst to Noss Head, Skerries, Calf of Man to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Bressay Sound, Morecambe Bay, *Loch Ryan, Devaar, Menai, Air.*	19
Ports in the Sleeve and Baltic, and south of the Sleeve to the Eyder.	North Ronaldshay to Noss Head, Kinnairds Head, Skerries, Calf of Man to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, *Loch Ryan, Devaar, Menai, Air.*	16 3/16

LIVERPOOL LIGHT CHARGES—continued.

Tables of duties for lights, buoys, and beacons, levied on vessels, etc.—Continued.

3. NORTH ABOUT BY WEST OF THE ISLE OF MAN—Continued.

From Beaumaris, Bangor, Conway, Chester, Liverpool, Runcorn, Preston, north about by east of Isle of Man, to and from—	Lights, etc., payable. (Those underlined are local; they must be referred to at pages Nos. 1 and 2, Table No. 4, and the charges must be added when due.)	Per ton.
		Pence.
Ports in the Eyder and south of it to Norden.	Anskerry to Noss Head, Kinnairds Head to Montroseness, Skerries, Calf of Man to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Heligoland, Morecambe Bay, *Loch Ryan, Devaar, Menai, Air.*	18
Norden and ports south to the Texel ..	Anskerry to Noss Head, Kinnairds Head to Montroseness, Skerries, Calf of Man to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, *Loch Ryan, Devaar, Menai, Air.*	17
The Texel and ports south of Rotterdam	Anskerry to Noss Head, Kinnaird's Head to Spurn Shore, Skerries. Calf of Man to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, *Loch Ryan, Devaar, Menai, Air.*	20$\frac{5}{16}$
Rotterdam and ports south to Antwerp.	Anskerry to Noss Head, Kinnaird's Head to Lowestoft, Skerries, Calf of Man to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, *Loch Ryan, Devaar, Menai, Air.*	22$\frac{1}{16}$

4. LOCAL DUES.

Places.	Description of dues payable.	Amount.
Cromarty	1 Lighthouse. On all vessels arriving at or departing from any port or place in the Frith of Cromarty, within the Sutors of Cromarty, of and under 150 tons.	6*d.* per vessel.
Loch Ryan	And for every additional 50 tons, or part of 50 tons, 1 lighthouse. On all vessels arriving at or departing from any port or place within Loch Ryan of and under 50 tons.	Do.
Dovaar	And for every additional 50 tons, or part of 50 tons, 1 lighthouse. On all vessels arriving at or departing from any port or place in the Bay of Campbletown of and under 50 tons.	Do.
Cromway Buoys	And for every additional 50 tons or part of 50 tons. On all vessels entering or departing from the port of Conway.	Do. $\frac{1}{16}$*d.* per ton.
Menai	1 lighthouse. On all vessels passing through the Straits of Menai, or entering or departing therefrom at the northeast entrance thereof, or entering or departing from Beaumaris Bay, or any port, harbor, roadstead, creek, or place between the northeast entrance of the said straits and Black Point on the west side and Great Orme's Head on the east side, for each time of passing or crossing the said lighthouse or light in any direction.	$\frac{1}{16}$*d.* per ton.
	On all vessels from or to the ports of Liverpool, Chester, or any port, harbor, roadstead, creek, or place between Liverpool and Great Orme's Head, and navigating to or from the westward between the Isle of Anglesea and the Isle of Man, for each time of passing or crossing the said lighthouse or light in any direction. On all such vessels so navigating, which, though not destined to any port or place, shall enter into or depart from Beaumaris Bay, for each time of passing or crossing the said lighthouse or light in any direction, the sum of.	6*d.* per vessel.
Air	1 lighthouse and Dee buoys. On all vessels passing over Chester bar, or between the southwestern part of Hoyle Lands and the main land on the coast of Wales.	2*d.* per ton.

LIVERPOOL LIGHT CHARGES—continued.

Tables of duties for lights, buoys, and beacons, levied on vessels, etc.—Continued.

5. SPECIAL RATES FOR OVER-SEA VOYAGES OF VESSELS TRADING REGULARLY BETWEEN THE MOUTH OF THE ELBE AND BREST.

[Pursuant to the terms of an order in council, dated the 6th of September, 1880, and including all lights sanctioned to that date.]

From Beaumaris, Bangor, Conway, Chester, Liverpool, Runcorn, to and from—	Lights, etc., payable. (Those underlined are local; they must be referred to on pages 1 and 2, Table No. 8, and the charges must be added when due.)	Per ton.	Per vessel.
		Pence.	*s. d.*
Ports in the Eyder and south of it to the Elbe.	See previous over-sea rates.		
Ports in the Elbe and south of it to Norden.	Kentish Knock to Caskets, Start to Scilly, Seven Stones to Trevosa, Milford to Skerries, Heligoland, *Conway Buoys, Menai Air.*	2 1/16	7 0
Norden and ports south to Rotterdam.	Kentish Knock to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	1 15/16	7 0
Rotterdam and ports south to Antwerp; Antwerp and ports south to Dunkirk, inclusive.	Forelands to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	1 13/16	7 0
Ports west and south of Dunkirk to Cape Grisney.	Forelands, Varne to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	1 5/16	6 6
Cape Grisney and ports south to Boulogne, inclusive.	Dungeness to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	1 7/16	6 0
Ports south of Boulogne to Dieppe, inclusive.*	Beachy Head to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	1 5/16	5 6
Ports west and south of Dieppe to Isigny.	Owers to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	1 5/16	5 0
Isigny and ports west to Cherbourg.	Needles to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	1 3/16	4 6
Cherbourg and ports west to Cape La Hogue.	Shambles to Caskets, Start to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	1 3/16	4 0
Ports south and west of Cape La Hogue to St. Brieux.	Caskets to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	1 1/16	3 0
St. Brieux	Hanois, Edystone to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	1 1/16	2 0
Ports west of St. Brieux to Morlaix.	Edystone to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	1 3/16	2 0
Morlaix †	Lizard to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	1 3/16	1 6
Ports west of Morlaix to Brest, inclusive, and Ushant.	Wolf Rock to Scilly, Seven Stones to Trevose, Milford to Skerries, *Conway Buoys, Menai, Air.*	1 3/16	1 0

6. NORTH ABOUT, BY EAST OF ISLE OF MAN.

Ports in the Eyder and south of it to the Elbe.	See previous over-sea rates.	
Ports in the Elbe and south of it to Norden.	Anskerry to Noss Head, Kinnaird's Head to Montroseness, Chicken's Rock, South Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Heligoland, Morecambe Bay, Bahama Bank, *Loch Ryan, Devaar, Conway Buoys, Menai, Air, Lochindaul.*	3 3/16
Norden and ports south of it to the Texel.	Anskerry to Noss Head, Kinnaird's Head to Montroseness, Chicken's Rock, South Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, Bahama Bank, *Loch Ryan, Devaar, Conway Buoys, Menai, Air, Lochindaul.*	2 1/16
The Texel and ports south to Rotterdam.	Anskerry to Noss Head, Kinnaird's Head to Spurn Shore, Chicken's Rock, South Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, Bahama Bank, *Loch Ryan, Devaar, Conway Buoys, Menai, Air, Lochindaul.*	3 1/16

* The Cardigan Bay, included in the above rates, is not due from Beaumaris, Bangor, Conway Chester, Liverpool, Runcorn, to any of the foregoing ports; deduct 1/16d. per ton in such cases.

† When vessels on these voyages navigate outside the Scilly Islands, the Bishop Rock will be due instead of the Seven Stones; add 6d. per vessel and deduct 1/16d. per ton in such cases.

LIVERPOOL LIGHT CHARGES—continued.

Tables of duties for lights, buoys, and beacons, levied on vessels, etc.—Continued.

6. NORTH ABOUT, BY EAST OF ISLE OF MAN—Continued.

From Beaumaris, Bangor, Conway, Chester, Liverpool, Runcorn, Preston, to and from—	Lights, etc., payable. (Those underlined are local; they must be referred to on pages 1 and 2, Table No. 8, and the charges must be added when due).	Per ton.
		l'ence.
Rotterdam and ports south to Antwerp, inclusive.	Auskerry to Noss Head, Kinnaird's Head to Lowestoft, Chicken's Rock, South Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, Bahama Bank, *Loch Ryan, Devaar, Conway Buoys, Menai, Air, Lochindaul.*	4 1/10

7. RUNCORN, PRESTON, FLEETWOOD, LANCASTER, AND PORTS NORTH ABOUT BY WEST OF ISLE OF MAN.

From Chester, Liverpool, north to St. Bee's Head to—(and *vice versa*)—	Lights, etc., payable. (Those underlined are local; they must be referred to on pages 1 and 2, Table No. 8, and the charges must be added when due).	Per ton.
Ports in the Eyder and south of it to the Elbe.	See previous over-sea rates.	
Ports in the Elbe and south of it to Norden.	Auskerry to Noss Head, Kinnaird's Head to Montrosenessa, Skerries Chicken's Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Heligoland, Morecambe Bay, *Loch Ryan, Devaar, Menai, Air, Lochindaul.*	3 3/10
Norden and ports south to the Texel...	Auskerry to Noss Head, Kinnaird's Head to Montrosenessa, Skerries, Chicken's Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, *Loch Ryan, Devaar, Menai, Air, Lochindaul.*	3 3/10
The Texel and ports south to Rotterdam.	Auskerry to Noss Head, Kinnairds Head to Spurn Shore, Skerries Chicken's Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, *Loch Ryan, Devaar, Menai, Air, Lochindaul.*	3 3/10
Rotterdam and ports south to Antwerp, inclusive.	Auskerry to Noss Head, Kinnaird's Head to Lowestoft, Skerries, Chicken's Rock to Point of Ayre, Mull of Galloway to Sanda, Mull of Kintyre to Hoy Sound, Morecambe Bay, *Loch Ryan, Devaar, Menai, Air, Lochindaul.*	3 3/10

8. LOCAL RATES.

Places.	Description of dues payable.	Amount.
Loch Ryan	Light-house: On all vessels arriving at or departing from any port or place within Loch Ryan of and under 50 tons.	6d. per vessel.
	And for every additional 50 tons or part of 50 tons.....	Do.
Devaar.....	Light-house: On all vessels arriving at or departing from any port or place in the Bay of Campbeltown, of and under 50 tons.	Do.
	And for every additional 50 tons or part of 50 tons.....	Do.
Conway Buoys	On all vessels entering or departing from the port of Conway.	1/2d. per ton.
Menai	Light-house: On all vessels passing through the Straits of Menai, or entering or departing therefrom at the north-east entrance thereof, or entering or departing from Beaumaris Bay or any port, harbor, roadstead, creek, or place between the northeast entrance of the said straits and Black Point on the west side, and Great Orme's Head on the east side, for each time of passing or crossing the said light-house or light in any direction.	1/10d. per ton.
Air	Light-house and Dee Buoys: On all vessels passing over Chester Bar, or between the southwest part of Hoyle Sands and the mainland on the coast of Wales. (N. B.—Open boats or sloops under 40 tons, laden only with limestone, pebblestones for pavements, dung, or manure, are exempt.)	Do.
Lochindaul	Light-house: On all vessels	1/2d. per ton.

LIVERPOOL LIGHT CHARGES—continued.

Tables of duties for lights, buoys, and beacons, levied on vessels, etc.—Continued.

9. GENERAL PASSING LIGHTS OVER SEA.

EAST COAST.

[Rate per ton in sixteenths of a penny.]

No.	Lights, etc.	Description.	Rate.
1	North Unst	1 light-house	16
2	Whalsey	do	16
3	Sumburgh Head	do	8
4	North Ronaldshay	do	8
5	Start Point	do	8
6	Auskerry	do	8
7	Pentland Skerries	2 light-houses	8
8	Noss Head	1 light-house	8
9	Tarbetness	do	8
10	Covesea Skerries	do	8
11	Kinnaird's Head	do	8
12	Buchanness	do	8
13	Girdleness	A double light	8
14	Montrosenese	1 light-house	8
15	Bolt Rock	do	16
16	Isle of May	do	8
17	St. Abb's Head	do	8
18	Fern	3 light-houses	4
19	Souter Point Tinmouth	2 light-houses	2
20	Whitby	do	3
21	Flambro'	1 light-house	4
22	Spurn Shore	2 light-houses	8
23	Outer Dowsing	1 floating light	3
24	Dudgeon	do	4
25	Foulness	1 light-house	4
26	Haisbro' Sand (N. end)	1 floating light	4
27	Winterton and Orford	3 light-houses	8
28	Haisbro' and Newarp	2 light-houses and 1 floating light	4
29	Cockle Gatt	1 floating light	2
30	St. Nicholas Gatt	do	2
31	St. Nicholas Gatt Buoys		2
32	Lowestoft	3 light-houses and 1 floating light	4
33	N. E. Shipwash	1 floating light	2
34	Harwick	2 light-houses	4
35	Cork	1 floating light	2
36	Sunk and Galloper	2 floating lights and buoys	8
37	Kentish Knock	1 floating light	4

ENGLISH CHANNEL.

38	Forelands	3 light-houses	4
39	Goodwin and Gulf Stream	2 floating lights	8
40	South Land Head	1 floating light	4
41	Varne	do	2
42	Dungeness	1 light-house	4
43	Beachy Head	do	4
44	Owers	1 floating light	8
45	Needles	1 light-house 2 light-houses at Hurst 1 light-house at St. Katherine's Point	8 1
46	Shambles	1 floating light	4
47	Portland	2 light-houses	4
48	Caskets	3 light-houses	4
49	Hanois	1 light-house	4
50	Start	do	8
51	Eddystone and Breakwater	2 light-houses	4
52	Lizard	do	4
53	Wolf Rock	1 light-house	8
54	Longships	do	4
55	Scilly	do	4
56	Bishop Rock	do	4
57	Seven Stones	1 floating light	

9. GENERAL PASSING LIGHTS OVER SEA—Continued.

ATLANTIC, BRISTOL, AND ST. GEORGE'S CHANNELS AND IRISH SEA, ETC.

[Rates per ton in sixteenths of a penny.]

No.	Lights, etc.	Description.	Rate.
58	Godrevy	1 light-house	2 or 1
59	Trevose	....do	4
60	Hartland	1 light-house (building)	.....
61	Lundy	1 light-house	4
62	Caldy	... do	3
63	Helwicks	1 floating light	2
64	Scarweather	....do	4
65	Nash	2 light-houses	4
66	Breaksea	1 floating light	4
67	Flatholm	1 light-house	4
68	British Channel	Buoys, beacons, 1 floating light, and 1 light-house.	4 or 2
69	Milford	4 light-houses	4
70	Smalls	11 light-house	12
71	Hook Tower	....do	3
72	Comingbeg	1 floating light	3
73	Tuskar Rock	....do	3
74	Lucifer Shoal	....do	3
75	Cardigan Bay	... do	3
76	Blackwater Bank	... do	3
77	Barday	1 light-house	4
78	Arklow Bank south	1 floating light	3
79	Arklow Bank north	....do	3
80	Wicklow	1 light-house	3
81	Codling Bank	1 floating light	2
82	Carnarvon Bay	....do	3
83	Kish Bank	....do	3
84	Howth Bailey	1 light-house	3
85	South Stack	....do	4
86	Skerries	....do	12
87	Rock-a-Bill	... do	3
88	Chickens Rock	1 light-house building	.....
89	Calf of Man (Isle of Man)	2 light-houses	8
90	Carlingford	1 light-house	3
91	St. John's Point	....do	3
92	South Rock	....do	3
93	Douglas Head (Isle of Man)	....do	8
94	Point of Ayre (Isle of Man)	....do	8
95	Little Ross	....do	8
96	Mull of Galloway	....do	8
97	Copeland Island	....do	3
98	Maiden Rock's, south	....do	3
99	Maiden Rock's, north	....do	3
100	Corsewall	....do	8
101	Turnberry	1 light-house proposed	.....
102	Sanda	1 light-house	8
103	Pladda	2 light-houses	8
104	Mull of Kintyre	1 light-house	8
105	Rathlin Island	....do	3
106	Innishtrahul	....do	3
107	Rhinns of Islay	....do	8
108	Dhu Heartach	1 light-house building	.....
109	Skerryvore	1 light-house	16

EAST COAST.

110	Ardnamurchan	1 light-house	8
111	Barrhead	....do	8
112	Uabenish	....do	8
113	Island Glass	....do	8
114	Stornoway	....do	8
115	Stour Head	... do	8
116	Butt of Lewis	....do	8
117	Cape Wrath	....do	8
118	Holburn Head	....do	8
119	Dunnethead	... do	8
120	Cantickhead	....do	8
121	Hay Sound	2 light-houses	8

9. GENERAL PASSING LIGHTS OVER SEA—Continued.

SOUTH AND WEST COAST OF IRELAND.

[Rates per ton in sixteenths of a penny.]

No.	Lights, etc.	Description.	Rate.
122	Minehead	1 light-house	2
123	Ballycotton	do	2
124	Cork	do	2
125	Old Head Kinsale	do	2
126	Fastnet Rock	do	2
127	Calf Rock	do	2
128	Skellig's Rock	do	2
129	Tearaght Island	do	2
130	Loophead	do	2
131	Rock Island (Arran)	do	2
132	Slyne Head, south	do	2
133	Slyne Head, north	do	2
134	Clare Island	do	2
135	Black Rock	do	2
136	Eagle Island, south	do	2
137	Eagle Island, north	do	2
138	Rathlin O'Birne	do	2
139	Arranmore	do	2
140	Tory Island	do	2
141	Fannet Point	do	2

LIGHTS, THE DUTIES FOR WHICH ARE PAYABLE ONLY ON SPECIAL VOYAGES.

	Bressay Sound	1 light-house	8
	Inchkeith	do	8
	Coquet	do	8
	Spurn Floating	1 floating light	4
	Heligoland	1 light-house	16
	Leman and Ower	1 floating light	8
	Gunfleet	1 light-house	2
	Twin Middle	1 floating light	2
	Maplin	1 light-house	2
	Mouse	1 floating light	2
	Tongue	do	2
	Girdler	do	2
	Morecambe Bay	do	4
	Bahama Bank	do	2
	Lochindaul	1 light-house	64
	Macarthur's Head	do	8
	Skervuile	do	16
	Sound of Islay North	do	8
	(Rhu Vaal)	do	8
	Phladda	do	8
	Lismore	do	8
	Corrun	do	8
	Sound of Mull	do	8
	Isle Oronsay	do	8
	Kyleakin	do	8
	Rona	do	8
	Monach	do	16
	Gibraltar	do	(*)

*1 shilling per vessel.

Abatement.—Until Her Majesty, with the advice of her privy council, may see otherwise to determine, there shall be allowed to every person paying such tolls (being those specified in the foregoing tables), an abatement or discount upon the amount payable by him, which abatement or discount shall in the case of every oversea vessel be 50 per cent.

MERSEY DOCKS AND HARBOR BOARD.

[Inclosure 2 in Consul Sherman's report.]

RATES AND DUES ON SHIPS.

DOCK TONNAGE RATES.

Vessels liable to and mode of charging.

(1) All vessels entering into or leaving the docks are liable, according to the tonnage burden thereof, to pay to the board dock tonnage rates, mentioned in Schedule (B) annexed to the act, according to the several classes of voyages described in such schedule (see Table 1, p. 20); that is to say, to or from the port of Liverpool, from or to any parts or places mentioned in such schedule, and such rates shall be paid to the board by the masters or owners of such vessels, and shall be charged as follows:

Vessels trading inwards shall be liable to the rates payable in respect of the most distant of all the ports from which such vessels shall have traded to Liverpool.

Vessels arriving in ballast, but trading outwards, and also vessels built within the port of Liverpool, or trading outwards, shall be liable to the rates payable in respect of the most distant of all the ports to which they shall trade outwards, and vessels built within the said port on first trading outwards shall be liable to one moiety only of such rates, but shall thereafter pay full rates.

Vessels arriving in ballast at and departing in ballast from the said port shall be liable to one moiety only of the rates payable to the most distant of all the ports for which such vessels shall clear out or depart.

One arrival with one departure of a vessel shall be considered as one voyage, whether such vessel shall have traded both inwards and outwards, or arrived or departed in ballast, and without regard to any intermediate ports between which she may have traded whilst absent from Liverpool, but such vessel shall be liable to the rates payable in respect of the most distant of all the ports to which such vessel shall have traded. Vessels arriving in ballast and trading outwards, and vessels built in the port of Liverpool and trading outwards, and having paid the rates payable on such trading outwards, shall afterwards, on trading inwards, be liable to the rates payable on vessels trading inwards.

DOCK TONNAGE RATES—DIFFERENTIAL RATES.

Vessels arriving in ballast and trading outwards with certain cargoes.

(2) The dock tonnage rates to be charged in respect of every vessel arriving in ballast, and trading outwards with cargoes as prescribed below, which vessel shall receive the whole of such outward cargo whilst lying in the docks specified below, shall be one moiety of the dock tonnage rates for the time being chargeable in respect of vessels arriving in ballast, and trading outwards to the same port, and receiving their outward cargo in any other dock of the board than those mentioned:

(*a*) Cargoes consisting exclusively of coal or coke loaded for foreign or coastwise ports at the high level railway, in the Wellington dock or the Bramley-Moore dock, Liverpool, or in any part of the Great Float or Wallasey dock, Birkenhead, or partly in any one and partly in any other of such docks.

(*b*) Cargoes consisting exclusively of coal or coke, salt, iron, rails of steel, bricks, phosphate, and iron ore, or some of those articles loaded for foreign ports in any part of the great float or Wallasey dock, Birkenhead, or partly in the former and partly in the latter.

Provided that this arrangement shall only apply to the Wallasey dock so far as it can be done without interfering with the working of that dock in connection with the warehouse system; and further, that no vessel shall, under this arrangement, be allowed to use any other dock of the board than those above named, with the exception of the graving docks of the board, or for the sole purpose of going to or from the graving docks.

Vessels arriving in ballast and using the Birkenhead graving docks only.

(3) The dock tonnage rates to be charged on vessels arriving in ballast and passing through the Birkenhead docks for the sole purpose of going to or from and using the Birkenhead graving docks, without entering any of the Liverpool docks, shall be one moiety of the dock tonnage rates applicable to the most distant port to which such vessels may trade outwards, provided that the vessels do not load or discharge any goods

or ballast in any of the board's docks, and that their outward cargoes from the port of Liverpool do consist exclusively of the articles mentioned in part (*b*) of the preceding resolution, or some of those articles.

Vessels discharging their entire cargoes, of which not less than one-half consists of certain articles.

(4) Subject to the conditions aftermentioned, the dock tonnage rates on all vessels arriving with cargoes, not less than one-half of which shall consist of all or any of the articles named in the subjoined schedule and discharging the whole of such cargoes in the great float, Birkenhead, shall be one-half of the rates for the time being chargeable in respect of such vessels if discharged in any dock of the board on the Liverpool side of the Mersey.

The reduced rates above mentioned will not apply to any vessel which, after discharging in the great float, loads any cargo in any of the board's docks at Birkenhead except the great float, or in any of the board's docks on the Liverpool side of the Mersey, except coal or coke at the high-level railway in the Wellington or Bramley-Moore dock.

Vessels under this arrangement may use the graving docks of the board for examination or repairs without losing the benefit of the reduced rate.

The schedule of articles above referred to: Copper ore, sulphur ore, sulphur pyrites, copper pyrites, copper precipitate, copper regulus, iron ore and iron pyrites, lead ore, manganese, esparto grass, blende ore or black jack.

Vessels discharging a portion of their cargo consisting exclusively of certain articles.

(5) Any vessel discharging in the great float, Birkenhead, all such part of her cargo as is destined for Liverpool or Birkenhead, the cargo so discharged consisting of all or any of the articles mentioned in the schedule appended to the previous resolution, and afterwards leaving the port without using any of the other docks, basins, quays, piers, landing stages, graving docks, or gridirons of the board for any purpose whatever, the dock tonnage rates on such vessel shall be one-half of the rates for the time being chargeable in respect of such vessel if it had entered one of the board's docks on the Liverpool side of the Mersey, and there discharged such goods.

Vessels discharging cattle, etc., into the board's lairages or wharves at Birkenhead.

(6) During the pleasure of the board the dock tonnage rates on all vessels arriving with cargoes consisting exclusively of cattle, sheep, or pigs, which may be discharged in the Alfred or Wallasey dock, or great float, or partly in one or any of those places, and partly or entirely at the Wallasey or Woodside landing stage, shall be one moiety of the rates for the time being chargeable in respect of such vessels, if discharged in any other dock of the board, provided that such cattle, sheep, or pigs be placed in the lairages or wharves of the board, and that the vessels do not load any goods for the outward voyage other than coal intended to be used on the voyage, and the necessary stores, and do not enter any other dock or basin of the board than the said Alfred or Wallasey dock and great float, or use any other than the Wallasey or Woodside stage.

New vessels coming to Liverpool in ballast.

(7) In the case of every new vessel, built at any place in the United Kingdom of Great Britain and Ireland, which, on her first voyage, may come to this port in ballast direct from the place at which such vessel was built, and trade outwards from this port with cargo, one moiety of the dock tonnage rates payable in respect of such outward voyage of such vessel shall be remitted, provided that this regulation shall not in any case extend to the remission of one-half of the differential dock tonnage rate, chargeable in respect of vessels arriving in ballast and trading outwards under the conditions specified in the arrangements relating to such rate.

DOCK TONNAGE RATES—EXTRA DOCK RENT.

Time allowed in dock on payment of dock tonnage rates and particulars of charges when this time is exceeded.

Vessels paying dock tonnage rates may remain in the docks for the space of 2 months, to be computed from the time of first going into any dock, and after the expiration of such 2 months every such vessel lying up in any of the Liverpool or Birkenhead docks shall, during the pleasure of the board, be charged dock rent as follows:

After the rate of, for the first 6 months, if the privilege be continued for that period, 1*d.* per ton, per week; afterwards, 2*d.* per ton, per week; but the period during which such vessels shall have made use of any graving dock shall not be included in the before-mentioned period of 2 months. Provided always that the above-mentioned charges shall also be payable in respect of any vessel, using any dock, for any purpose, for more than 2 months, whether such vessel shall or shall not have previously incurred dock tonnage rates.

Further, that the owner or consignee of every vessel so lying up shall in all respects conform to the orders of the harbor master as to placing her in any part of the docks of the board, and as to moving her from one place to another whenever so required.

And further, that no vessel shall be entitled to lie up in any of the Liverpool docks at 1*d.* per ton, per week, if in the opinion of the harbor master there is room for her in any of the Birkenhead docks, or if the space occupied by her is required in connection with the general trade of the port.

Extra dock rent on steam tugs and steamers plying on Mersey.

(9) Inasmuch as it frequently happens that steamboats plying on the River Mersey and other steam vessels not otherwise chargeable with rates are, whilst unemployed or undergoing repairs laid up in the docks, therefore the master or owner of every such vessel which shall remain in any dock (except when driven into the docks by storms or stress of weather and except when using a graving dock) shall pay a tonnage rate of 2*d.* per ton per week, and any fractional part of a week shall be reckoned as a whole week.

HARBOR RATES.

Vessels liable to, and particulars as to mode of charging.

(11) All vessels coming into or going out of the port of Liverpool, and not entering into the docks, are liable according to the tonnage burden thereof, as harbor rates to the rates set forth in the schedule annexed to the Mersey Docks act, 1874, according to the several classes of voyages described in such schedule (see Table 2, p. 23), and such rates are to be paid to the board by the masters or owners of such vessels, and to be collected and paid according to the same rules and regulations, and to be recovered in the same manner as dock tonnage rates.

Securing necessary information.

(12) Every person claiming to be liable in respect of any vessel to harbor rates only, shall, if required by any collector of such rates, make a declaration in writing, stating the dock, basin, wharf, quay, pier, or landing place to or at which his vessel and cargo, or any part thereof, may be consigned or intended to be laden or unladen, and if any such person shall make a false declaration he shall be liable to a penalty of not exceeding £50.

Securing payment.

(13) In case the master or owner of any vessel liable to the payment of harbor rates shall neglect or refuse to pay the whole or any part thereof, such master or owner shall in every such case be liable to pay to the board, over and above the rates demandable by them and payable by such master or owner, a further sum equal to the amount of such harbor rates, and also a further sum not exceeding £20.

WHARF RATE.

Vessels liable to, and particulars as to mode of charging.

(14) If any goods, stores, or passengers coming or brought from, or going or taken to any vessel liable to the payment of harbor rates are landed upon or embarked from any of the piers, landing stages, or quays belonging to the board, such vessel is liable to a wharf rate not exceeding one-fourth of the tonnage rates to which such vessel would have been liable if she had entered the docks (see Table 3, p 24). Vessels which have paid a wharf rate on entering the port are not liable to the payment of such rate on their next departure from the port.

ANCHORAGE DUES.

Vessels liable to.

(15) All vessels entering the port of Liverpool are liable to the Mersey docks and harbor board for anchorage dues (see Table 4, p. 24), except vessels proceeding up the

river beyond an imaginary straight line drawn from Eastham Ferry to Garston without discharging or loading passengers or material of any description, or using any docks, quays, landing stages, or works of the board for any purpose whatever.

NOTE.—These dues are legally chargeable, but by order of the board they are not at present collected.

RATES AND DUES ON SHIPS.—MISCELLANEOUS PROVISIONS.

Tonnage rates—when payable.

(16) All tonnage rates, including harbor rates, are to be paid to some collector of such rates, at the dock office, Liverpool, or at Runcorn, upon the arrival of such vessels, and previously to their being entered or cleared inwards at the custom-house.

Deposits on account of rates.

(17) Any collector of tonnage rates may receive, by way of deposit and on account of the rates to which any vessel may be liable, such a sum of money as shall, in his opinion, be sufficient to cover the amount thereof; and the production of a certificate from him that such deposit has been made, shall, as an authority to the collector of customs to allow the entry of such vessel to be made, be equivalent to the production of a receipt for the payment of such rates, but such vessel shall not be entitled to clearance outwards until a receipt for the full amount of all rates payable in respect of such vessel, signed by some collector of such rates, shall have been produced to the proper officer of customs.

Inquiry as to port of arrival or destination.

(18) Persons applying to pay dock tonnage rates or harbor rates, may be questioned by the collector of such rates as to the most distant port from which such vessel has arrived, or to which such vessel is bound; and any person refusing to answer any reasonable question, or willfully giving a false or untrue answer, is liable to a penalty of not exceeding £10.

Ballast cargoes.

(19) Vessels arriving at the port of Liverpool laden with cargo consisting solely of limestones, paving stones, flint stones, gravel, and chalk, shall for all purposes be considered as vessels coming in ballast, and shall be charged accordingly.

Securing payment of rates.

(20) While any dock tonnage rates or harbor rates remain unpaid, in respect of any vessel liable thereto, the collector of such rates shall not receive any further or other entry in respect of such vessel, and the board may cause such vessel to be detained until all such rates shall have been paid.

Vessels discharging or loading in river.

(21) If any portion of the cargo of any vessel shall be either loaded or discharged without the previous consent of the board, in any part of the river Mersey north of an imaginary straight line drawn from Rock Ferry slip to the southern basin of Harrington dock, the master or owner of such vessel shall pay to the board, by way of damages, not less than the full amount and not exceeding twice the full amount of the tonnage and other rates which would be payable to the board in respect of such vessel and her cargo, if such vessel had loaded or discharged her cargo in one of their docks.

NOTE.—The loading of coals for consumption on board steamers is excepted from the above provision.

RATES AND DUES ON GOODS.—DOCK RATES.

Goods liable to dock rates.

(22) All goods imported from parts beyond the seas or coastwise into the port of Liverpool and brought into the docks, or landed at, or deposited upon, or carried over any quay, pier, landing stage or land belonging to the board, or exported to parts beyond the seas or coastwise from the said port, which may at any time previously have been brought into the docks, or landed at, or deposited upon, or carried over

any quay, pier, landing stage or land belonging to the board, are liable to the dock rates specified in schedule (C) annexed to the act (see Table 5, p. 26), so far as such goods are particularized in the said schedule; and goods not particularized in the said schedule are liable to rates equal to the rates affixed on goods of a similar nature, package, value, and quality.

NOTE.—By order of the board, the dock rates on goods imported and exported coastwise, though legally chargeable, are not at present collected.

Mode of charging dock rates on goods.

(23) The mode of charging rates on goods shall be regulated, and the payment thereof secured as follows, that is to say:

An entry of each parcel of goods imported shall be first exhibited to the collector of dock rates on goods; and the rates payable on such goods as specified in such entry shall be paid, and the payment thereof attested on such entry, before the collector of customs shall permit such entry to be passed for the payment of customs duties or for the landing of such goods.

When the goods specified in each of such entries shall have been examined and ascertained, and the full quantities known, a further entry shall be made out of the remaining quantities (if any) of such goods, and the rates payable in respect thereof shall be paid by the owner thereof at the time of passing such entry at the custom-house, and such entry shall be signed by such collector of dock rates before the same shall be passed at the custom house.

In all cases where goods are intended to be exported, the entry intended to be made of such goods at the custom-house shall be produced to the collector of dock rates on goods, who shall attest thereon that the dock rates have been paid upon the packages or quantities specified therein before the collector of customs shall receive such entry.

A duplicate of each entry required to be produced to the collector of dock rates on goods shall be left with him at the time of such production, and until such duplicate shall be so left no tender of such rates to such collector shall be valid.

All dock rates on goods imported into or exported from the port of Liverpool, from or to any other part of the United Kingdom, or the islands of Man, Guernsey, Jersey, Alderney, or Sark, shall be paid previously to the discharge or shipment of such goods by the master or owner of the vessel importing or shipping such goods, and such rates shall be paid according to the quantities specified in the cargo book, manifest, cocket, or transire, or the clearance out of such vessel at the port of loading, and such master or owner shall be entitled to recover from the owner of such goods the amount of the rates so paid as aforesaid, and in the meantime shall have a lien on such goods.

NOTE.—By order of the board, the dock rates referred to in this clause, though legally chargeable, are not at present collected.

TOWN DUES.

Goods liable to town dues.

(24) All goods imported into or exported from the port of Liverpool and brought into the docks, or discharged or loaded north of an imaginary straight line drawn from Eastham Ferry to Garston, are liable to the town dues specified or included in Table 5 (p. 26). Goods not particularized in the said schedule are liable to rates equal to the rates on goods of a similar nature, package, value, and quality.

Mode of charging.

(25) Town dues are payable at the same time and in the same manner as dock rates on goods.

DOCK RATES AND TOWN DUES.—DIFFERENTIAL RATES.

Certain articles discharged in Great Float, Birkenhead.

(26) When a vessel arrives with cargo, not less than one half of which consists of all or any of the articles undermentioned, and discharges the whole of her cargo in the Great Float, Birkenhead, the dock rates and town dues on that part of her cargo which consists of the said articles shall be one half of the rates for the time being chargeable in respect of such goods when discharged in any dock of the board on the Liverpool side of the Mersey.

Also when a vessel discharges in the Great Float, Birkenhead, all such part of her

cargo as is destined for Liverpool or Birkenhead, the cargo so discharged consisting of all or any of the articles undermentioned, and afterwards leaves the port without using any of the other docks, basins, quays, piers, landing stages, graving docks, or gridirons of the board for any purpose whatever, the dock rates and town dues on the goods so discharged in the Great Float shall be one-half of the rates and dues for the time being chargeable in respect of such goods if such vessel had entered one of the board's docks on the Liverpool side of the Mersey, and there discharged such goods.

The articles above referred to: Copper ore, sulphur ore, sulphur pyrites, copper pyrites, copper precipitate, copper regulus, iron ore and iron pyrites, lead ore, manganese, esparto grass, blende ore or black-jack.

(27) During the pleasure of the board, the inward dock rates and town dues on mining timber and pit props when discharged in the Great Float, Birkenhead, shall be one-half of the rates and dues applicable to "wood—all timber in the log, etc."

DOCK RATES AND TOWN DUES—EXEMPTIONS.

Goods in transit.

(28) Foreign goods imported from foreign ports in transit to foreign ports, and intended for immediate transhipment, are free of dock rates and town dues inwards, but are charged the dock rates and town dues outwards on exportation, provided that when such goods have not been subject to the customs transit regulations, owing to their being free from duty, a declaration that such goods were actually in transit shall be furnished to the board on the form provided for this purpose.

Goods in transit repacked after importation a e treated as in transit, provided the proper declaration is furnished; but in such cases the outward rates and dues are charged according to the form of package in which the goods are imported.

Goods imported coastwise and afterwards exported foreign or coastwise.

(29) All goods imported coastwise and afterwards exported to foreign or coastwise ports are exempted from the payment of town dues inwards upon a declaration of the necessary particulars being furnished to the board on the form provided for this purpose.

Goods exported coastwise, if previously imported foreign and reshipped from the quay.

(30) All goods which are imported from foreign ports and are afterwards exported to coastwise ports, and which are not removed from the quay except for the purpose of being placed on the vessel by which they are to be exported, are exempted from the payment of outward town dues upon a declaration of the necessary particulars being furnished to the board on the form provided for this purpose.

Goods exported foreign or coastwise, if previously imported foreign by same owners.

(31) Goods imported from foreign ports and afterwards exported to foreign or coastwise ports, and which remain the bona fide sole property of the same person throughout, are exempted from the payment of outward town dues upon a declaration of the necessary particulars being furnished to the board on the form provided for this purpose.

Goods imported foreign or coastwise, if previously exported by same owner.

(32) Goods imported foreign which have been previously exported foreign, or imported coastwise which have been previously exported coastwise, and of which the ownership has remained unchanged, are exempt from the payment of inward town dues upon a declaration of the necessary particulars being furnished to the board on the form provided for this purpose.

Goods discharged or loaded in the Duke's dock, or in that part of the Carriers' dock on the east side of the Brunswick dock which was substituted for the Egerton dock, or in any private graving dock.

(33) Goods discharged or loaded in the Duke's dock or in that part of the Carriers' dock on the east side of the Brunswick dock which was substituted for the Egerton dock, or in any private graving dock, are exempted from dock rates, inwards or outwards, as the case may be, upon a certificate being given that the vessel by which they were imported or exported did not, before discharging or after loading such goods, enter any of the docks or basins of the board.

Goods discharged or loaded in the Upper Mersey.

(34) Imports brought into the board's docks in the importing vessels, and not discharged there, but subsequently discharged at places in the Upper Mersey, and exports loaded at places in the Upper Mersey and subsequently brought into the board's docks in the exporting vessels, on board which they are kept for exportation, though chargeable with dock rates and town dues, are during the pleasure of the board exempt from payment of them, in cases where such imports or exports form only a portion of the vessel's cargo, and the remaining portion is discharged or loaded in the board's docks.

Limit of time within which claims for exemption must be made.

(35) Claims for exemption from dock rates and town dues under the regulations laid down by the board will be allowed only when the same are made and substantiated within a period of 12 months from the date of importation (if the claim be made in respect of goods imported and afterwards exported, *i. e.*, under clause 28, 29, 30, or 31), or exportation (if the claim be made in respect of goods exported and afterwards imported, *i. e.*, under clause 32).

RATES AND DUES ON GOODS—MISCELLANEOUS PROVISIONS.

Securing payment of dock rates.

(36) No collector of customs of or in the port of Liverpool shall permit any vessel to be reported unless the register, manifest, and cocket of such vessel shall have been produced at the dock office, or shall allow any goods on which such rate is payable to the board to be landed or shipped until the owner of such goods shall have paid the rates thereon, or permit any vessel to be cleared outwards until all such rates on goods shipped on board such vessel shall have been paid to the collector thereof and his receipt produced for the same.

Securing payment of arrears of dock rates.

(37) No collector of rates on goods shall receive any entry in respect of goods liable to the payment of the rates specified in the schedule until all such rates in respect of any other goods payable by the person by whom or on whose behalf such entry is required to be made shall have been duly paid.

Claims for return of dues.

(38) All persons claiming or entitled to claim the return of the whole or any part of any moneys paid in respect of any rates on goods on account of any overentry thereof shall make and substantiate such claim, and produce all documents required in proof of such claim within 12 months from the time of the entry of such goods, and in default thereof the whole sum paid shall belong to the board.

RATES AND DUES ON SHIPS AND GOODS—GENERAL PROVISIONS.

Evasion of rates.

(39) Masters or owners of vessels or owners of any goods, by any means whatsoever at any time evading, or attempting to evade, or neglecting or omitting to pay any rates, are liable to pay to the board by way of damages, in addition to such rates, a sum equal to such rates, and in addition a penalty not exceeding £20.

Liabilities of principals and clerks.

(40) All penalties imposed by the last preceding section shall extend to the principals in any house of business, by whom or on whose account such payment shall have been evaded or omitted to be made, as well as to the clerks or servants of such principals employed or acting therein.

Payment of evaded rates.

(41) The tender to or acceptance by the board, or any of their officers, of any rate, the payment of which has been previously evaded or left unpaid, shall not release or discharge any person from any liability, penalty, or forfeiture consequent upon such evasion or nonpayment.

TABLES OF RATES AND DUES.

TABLE 1.—*Dock tonnage rates on vessels.*

Class of voyage.	Rate per ton.
	s. *d.*
Class 1.—Between St. David's Head and Carlisle, including the Island of Anglesea	0 2½
Between Carlisle and the Mull of Galloway, including the Isle of Man	0 3
Class 2.—Between the Mull of Galloway and Duncan's Bay Head, including the Orkney Isles, and all the islands on the western coast of Scotland, and between St. David's Head and the Land's End, including the Scilly Islands and the east coast of Ireland, from Cape Clear to Malling Head	0 4½
Class 3.—All the parts of the east and southern coasts of Great Britain, between Duncan's Bay Head and the Land's End, including the islands of Shetland and all parts of the west coast of Ireland, from Cape Clear to Malling Head, including the islands on that coast	0 6
Class 4.—All parts of Europe to the northward of Cape Finisterre, and to the westward of the North Cape, and without the Cattegat and Baltic Sea, and including the islands of Guernsey, Jersey, Alderney, Sark, the Faro Island, and Iceland	0 10½
Class 5.—All parts within the Cattegat and Baltic, including the whole of Sweden, the White Sea, and all parts to the eastward of the North Cape, all parts in Europe to the southward of Cape Finisterre, without the Mediterranean, Newfoundland, Greenland, Davis' Straits, Canaries, Western Islands, Madeira, and Azores	1 2
Class 6.—All parts on the east coast of North America, the East Indies, the east coast of South America, to the northward of Rio la Plata, inclusive; all parts of the west coast of Africa, and islands to the northward of the Cape of Good Hope, and all parts within the Mediterranean, including the Adriatic, the Black Sea and Archipelago, the islands of St. Helena, Ascension, and the Cape de Verde Islands	1 5
Class 7.—All parts in South America to the southward of the Rio Plata; in the Pacific Ocean, and in Africa and Asia, to the eastward of the Cape of Good Hope	1 5

NOTE 1.—Vessels arriving with cargo are charged on the inward voyage. Vessels arriving in ballast are charged on the outward voyage.

NOTE 2.—New vessels built in the port, and vessels arriving and departing in ballast, are charged half the above rates on the outward voyage.

Extra dock rent.—Vessels paying dock tonnage rates which remain in the docks for a longer period than 2 months are liable to an additional rate per ton per week (see fly leaf opposite page 6).

DIFFERENTIAL RATES.

	Rates per ton.
Vessels arriving in ballast and trading outwards with certain cargoes loaded in certain docks.	
Vessels arriving in ballast, and loading outward foreign or coastwise cargoes of coal or coke, at the board's high level coal appliances in the Wellington and Bramley-Moore docks, or at any part of the great float or Wallasey dock, Birkenhead, or partly at any one and partly at any other of such places. (See clause 2, page 2.)	One-half of the rates specified in Table 1.
Vessels arriving in ballast and loading outward foreign in the great float or Wallasey dock, Birkenhead, cargoes of salt, coal, or coke, iron, rails of steel, bricks, phosphate, or iron ore.	Do.
Vessels using no docks of the board but the Birkenhead graving docks, and leaving the port with certain cargoes.	
Vessels arriving in ballast and using no docks of the board except the Birkenhead graving docks, whose outward cargoes consist of salt, coal, or coke, iron, rails of steel, bricks, phosphate, or iron ore.	One-half of the rates specified in Table 1.
Vessels discharging certain cargoes in the great float, Birkenhead.	
Vessels discharging cargoes in the great float, Birkenhead, of which not less than one-half shall consist of the articles mentioned at foot hereof. (See clause 4, page 3.) Also vessels discharging in that dock all such part of their cargoes as is intended for Liverpool, the cargo so discharged consisting of all or any of the undermentioned articles, which vessels shall afterwards leave the port without using any other dock of the board.	One-half of the rates specified in Table 1.
Copper ore, sulphur ore, sulphur pyrites, copper pyrites, copper precipitate, iron pyrites, iron ore, copper regulus, manganese, lead ore, esparto grass, blende ore or black jack.	
Vessels discharging cattle, etc., into the board's lairages or wharves, and leaving the port in ballast.	
Vessels discharging cargoes consisting solely of cattle, sheep, or pigs, at the Alfred or Wallasey dock or great float, or Wallasey or Woodside stages into the board's lairages or wharves, which vessels shall afterwards leave the port in ballast without entering any other dock or basin of the board.	One-half of the rates specified in Table 1.
New vessels coming direct from the ports at which they were built.	
New vessels built in the United Kingdom which come to Liverpool in ballast direct from the places at which they were built, and trade outwards in cargo.	One-half of the rates specified in Table 1.

TABLE 2.

Harbor rates on vessels.

Class of voyage.	Rate per ton, less 15 per cent.
	s. *d.*
Class 1. Between St. David's Head and Carlisle, including the island of Anglesea	0 0½
Between Carlisle and the Mull of Galloway, including the Isle of Man	0 0½
Class 2. Between the Mull of Galloway and Duncan's Bay Head, including the Orkney Isles, and all the islands on the western coast of Scotland, and between St. David's Head and the Land's End, including the Scilly Islands and the east coast of Ireland, from Cape Clear to Malling Head	0 0½
Class 3. All the parts of the east and southern coasts of Great Britain, between Duncan's Bay Head and the Land's End, including the islands of Shetland and all parts of the west coast of Ireland, from Cape Clear to Malling Head, including the islands on that coast	0 0½
Class 4. All parts of Europe to the northward of Cape Finisterre, and to the westward of the North Cape, and without the Cattegat and Baltic Sea, and including the islands of Guernsey, Jersey, Alderney, Sark, the Faro Island and Iceland	0 1½
Class 5. All parts within the Cattegat and Baltic, including the whole of Sweden, the White Sea, and all parts to the eastward of the North Cape, all parts in Europe to the southward of Cape Finisterre, without the Mediterranean, Newfoundland, Greenland, Davis' Straits, Canaries, Western Islands, Madeira, and Azores	0 1½
Class 6. All parts on the east coast of North America, the West Indies, the east coast of South America, to the northward of Rio la Plata inclusive; all parts of the west coast of Africa, and islands to the northward of the Cape of Good Hope, and all parts within the Mediterranean, including the Adriatic, the Black Sea and Archipelago, the islands of St. Helena, Ascension, and the Cape de Verde Islands	0 1½
Class 7. All parts in South America, to the southward of the Rio la Plata; in the Pacific Ocean; and in Africa and Asia, to the eastward of the Cape of Good Hope	0 2

NOTE 1.—Vessels arriving with cargo are charged on the inward voyage; vessels arriving in ballast are charged on the outward voyage.

NOTE 2.—Vessels arriving and departing in ballast are charged half of the above rates on the outward voyage.

TABLE 3.

Wharf rate on vessels.

Class of voyage.	Rate per ton.
	s. *d.*
Class 1. Between St. David's Head and Carlisle, including the island of Anglesea	0 0½
Between Carlisle and the Mull of Galloway, including the Isle of Man	0 0½
Class 2. Between the Mull of Galloway and Duncan's Bay Head, including the Orkney Isles, and all the islands on the western coast of Scotland, and between St. David's Head and the Land's End, including the Scilly Islands and the east coast of Ireland, from Cape Clear to Malling Head	0 1½
Class 3. All the parts of the east and southern coasts of Great Britain, between Duncan's Bay Head and the Land's End, including the islands of Shetland and all parts of the west coast of Ireland, from Cape Clear to Malling Head, including the islands on that coast	0 1½
Class 4. All parts of Europe to the northward of Cape Finisterre, and to the westward of the North Cape, and without the Cattegat and Baltic Sea, and including the islands of Guernsey, Jersey, Alderney, Sark, the Faro Island and Iceland	0 2½
Class 5. All parts within the Cattegat and Baltic, including the whole of Sweden, the White Sea, and all parts to the eastward of the North Cape, all parts in Europe to the southward of Cape Finisterre, without the Mediterranean, Newfoundland, Greenland, Davis' Straits, Canaries, Western Islands, Madeira, and Azores	0 3½
Class 6. All parts of the east coast of North America, the West Indies, the east coast of South America, to the northward of Rio la Plata inclusive; all parts of the west coast of Africa, and islands to the northward of the Cape of Good Hope, and all parts within the Mediterranean, including the Adriatic, the Black Sea and Archipelago, the islands of St. Helena, Ascension, and the Cape de Verde Islands	0 4½
Class 7. All parts in South America, to the southward of the Rio la Plata; in the Pacific Ocean; and in Africa and Asia, to the eastward of the Cape of Good Hope	0 4½

NOTE 1.—Vessels arriving with cargo are charged on the inward voyage; vessels arriving in ballast are charged on the outward voyage.

NOTE 2.—Vessels arriving and departing in ballast are charged half of the above rates on the outward voyage.

LIVERPOOL LIGHT CHARGES—continued.

Tables of duties for lights, buoys, and beacons, levied on vessels, etc.—Continued.

9. GENERAL PASSING LIGHTS OVER SEA.

EAST COAST.

[Rate per ton in sixteenths of a penny.]

No.	Lights, etc.	Description.	Rate.
1	North Unst	1 light-house	16
2	Whalsey	....do	16
3	Sumburgh Head	....do	8
4	North Ronaldshay	....do	8
5	Start Point	....do	8
6	Auskerry	....do	8
7	Pentland Skerries	2 light-houses	8
8	Noss Head	1 light-house	8
9	Tarbetness	....do	8
10	Covesea Skerries	....do	8
11	Kinnaird's Head	....do	8
12	Buchanness	....do	8
13	Girdleness	A double light	8
14	Montroseness	1 light-house	8
15	Belt Rock	....do	16
16	Isle of May	....do	8
17	St. Abb's Head	....do	8
18	Fern	3 light-houses	4
19	Souter Point Tinmouth	2 light-houses	2
20	Whitby	....do	2
21	Flambro'	1 light-house	4
22	Spurn Shore	2 light-houses	8
23	Outer Dowsing	1 floating light	2
24	Dudgeon	....do	4
25	Foulness	1 light-house	4
26	Haisbro' Sand (N. end)	1 floating light	4
27	Winterton and Orford	3 light-houses	8
28	Haisbro' and Newarp	2 light-houses and 1 floating light	4
29	Cockle Gatt	1 floating light	2
30	St. Nicholas Gatt	....do	2
31	St. Nicholas Gatt Buoys		2
32	Lowestoft	3 light-houses and 1 floating light	4
33	N. E. Shipwash	1 floating light	2
34	Harwich	2 light-houses	4
35	Cork	1 floating light	2
36	Sunk and Galloper	2 floating lights and buoys	8
37	Kentish Knock	1 floating light	4

ENGLISH CHANNEL.

38	Forelands	3 light-houses	4
39	Goodwin and Gulf Stream	2 floating lights	8
40	South Land Head	1 floating light	4
41	Varne	....do	2
42	Dungeness	1 light-house	4
43	Beachy Head	....do	4
44	Owers	1 floating light	8
45	Needles	1 light-house 2 light-houses at Hurst 1 light-house at St. Katherine's Point	8
46	Shambles	1 floating light	1
47	Portland	2 light-houses	4
48	Caskets	3 light-houses	4
49	Hanois	1 light-house	4
50	Start	....do	4
51	Eddystone and Breakwater	2 light-houses	8
52	Lizard	....do	4
53	Wolf Rock	1 light-house	4
54	Longships	....do	8
55	Scilly	....do	4
56	Bishop Rock	....do	4
57	Seven Stones	1 floating light	4

9. GENERAL PASSING LIGHTS OVER SEA—Continued.

ATLANTIC, BRISTOL, AND ST. GEORGE'S CHANNELS AND IRISH SEA, ETC.

[Rates per ton in sixteenths of a penny.]

No.	Lights, etc.	Description.	Rate.
58	Godrevy	1 light-house	2 or 1
59	Trevose	....do	4
60	Hartland	1 light-house (building)	.....
61	Lundy	1 light-house	4
62	Caldy	... do	3
63	Helwicks	1 floating light	2
64	Scarweather	...do	4
65	Nash	2 light-houses	4
66	Breaksea	1 floating light	4
67	Flatholm	1 light-house	4
68	British Channel	Buoys, beacons, 1 floating light, and 1 light-house.	4 or 2
69	Milford	4 light-houses	4
70	Smalls	11 light-house	12
71	Hook Tower	....do	3
72	Comingbeg	1 floating light	3
73	Tuskar Rock	....do	3
74	Lucifer Shoal	....do	3
75	Cardigan Bay	... do	3
76	Blackwater Bank	... do	3
77	Barday	1 light-house	4
78	Arklow Bank south	1 floating light	3
79	Arklow Bank north	....do	3
80	Wicklow	1 light-house	3
81	Codling Bank	1 floating light	3
82	Carnarvon Bay	....do	3
83	Kish Bank	....do	3
84	Howth Bailey	1 light-house	3
85	South Stack	....do	4
86	Skerries	....do	12
87	Rock-a-Bill	... do	3
88	Chickens Rock	1 light-house building	.....
89	Calf of Man (Isle of Man)	2 light-houses	3
90	Carlingford	1 light-house	3
91	St. John's Point	....do	3
92	South Rock	....do	3
93	Douglas Head (Isle of Man)	....do	6
94	Point of Ayre (Isle of Man)	....do	3
95	Little Ross	....do	3
96	Mull of Galloway	....do	3
97	Copeland Island	....do	3
98	Maiden Rock's, south	....do	3
99	Maiden Rock's, north	....do	3
100	Corsewall	....do	3
101	Turnberry	1 light-house proposed	.....
102	Sanda	1 light-house	3
103	Pladda	2 light-houses	3
104	Mull of Kintyre	1 light-house	3
105	Rathlin Island	....do	3
106	Innishtrahul	....do	3
107	Rhinns of Islay	....do	3
108	Dhu Heartach	1 light-house building	.....
109	Skerryvore	1 light-house	16

EAST COAST.

110	Ardnamurchan	1 light-house	3
111	Barrhead	....do	3
112	Usheniah	....do	3
113	Island Glass	....do	3
114	Stornoway	....do	3
115	Stour Head	... do	3
116	Butt of Lewis	....do	3
117	Cape Wrath	....do	2
118	Holburn Head	....do	3
119	Dunnethead	... do	3
120	Cauticknead	....do	3
121	Hay Sound	2 light-houses	3

9. GENERAL PASSING LIGHTS OVER SEA—Continued.

SOUTH AND WEST COAST OF IRELAND.

[Rates per ton in sixteenths of a penny.]

No.	Lights, etc.	Description.	Rate.
122	Minehead	1 light-house	3
123	Ballycotton	do	3
124	Cork	do	3
125	Old Head Kinsale	do	3
126	Fastnet Rock	do	3
127	Calf Rock	do	3
128	Skellig's Rock	do	3
129	Tearaght Island	do	3
130	Loophead	do	3
131	Rock Island (Arran)	do	3
132	Slyne Head, south	do	3
133	Slyne Head, north	do	3
134	Clare Island	do	3
135	Black Rock	do	3
136	Eagle Island, south	do	3
137	Eagle Island, north	do	3
138	Rathlin O'Birne	do	3
139	Arranmore	do	3
140	Tory Island	do	3
141	Fannet Point	do	3

LIGHTS, THE DUTIES FOR WHICH ARE PAYABLE ONLY ON SPECIAL VOYAGES.

	Bressay Sound	1 light-house	8
	Inchkeith	do	8
	Coquet	do	8
	Spurn Floating	1 floating light	4
	Heligoland	1 light-house	16
	Leman and Ower	1 floating light	8
	Gunfleet	1 light-house	2
	Twin Middle	1 floating light	2
	Maplin	1 light-house	2
	Mouse	1 floating light	2
	Tongue	do	2
	Girdler	do	2
	Morecambe Bay	do	4
	Bahama Bank	do	2
	Lochindaul	1 light-house	64
	Macarthur's Head	do	8
	Skervuile	do	16
	Sound of Islay North	do	8
	(Rhu Vaal)	do	8
	Phladda	do	8
	Lismore	do	8
	Corrun	do	8
	Sound of Mull	do	8
	Isle Oronsay	do	8
	Kyleakin	do	8
	Rona	do	8
	Monach	do	16
	Gibraltar	do	(*)

*1 shilling per vessel.

Abatement.—Until Her Majesty, with the advice of her privy council, may see otherwise to determine, there shall be allowed to every person paying such tolls (being those specified in the foregoing tables), an abatement or discount upon the amount payable by him, which abatement or discount shall in the case of every oversea vessel be 50 per cent.

MERSEY DOCKS AND HARBOR BOARD.

[Inclosure 2 in Consul Sherman's report.]

RATES AND DUES ON SHIPS.

DOCK TONNAGE RATES.

Vessels liable to and mode of charging.

(1) All vessels entering into or leaving the docks are liable, according to the tonnage burden thereof, to pay to the board dock tonnage rates, mentioned in Schedule (B) annexed to the act, according to the several classes of voyages described in such schedule (see Table 1, p. 20); that is to say, to or from the port of Liverpool, from or to any parts or places mentioned in such schedule, and such rates shall be paid to the board by the masters or owners of such vessels, and shall be charged as follows:

Vessels trading inwards shall be liable to the rates payable in respect of the most distant of all the ports from which such vessels shall have traded to Liverpool.

Vessels arriving in ballast, but trading outwards, and also vessels built within the port of Liverpool, or trading outwards, shall be liable to the rates payable in respect of the most distant of all the ports to which they shall trade outwards, and vessels built within the said port on first trading outwards shall be liable to one moiety only of such rates, but shall thereafter pay full rates.

Vessels arriving in ballast at and departing in ballast from the said port shall be liable to one moiety only of the rates payable to the most distant of all the ports for which such vessels shall clear out or depart.

One arrival with one departure of a vessel shall be considered as one voyage, whether such vessel shall have traded both inwards and outwards, or arrived or departed in ballast, and without regard to any intermediate ports between which she may have traded whilst absent from Liverpool, but such vessel shall be liable to the rates payable in respect of the most distant of all the ports to which such vessel shall have traded. Vessels arriving in ballast and trading outwards, and vessels built in the port of Liverpool and trading outwards, and having paid the rates payable on such trading outwards, shall afterwards, on trading inwards, be liable to the rates payable on vessels trading inwards.

DOCK TONNAGE RATES—DIFFERENTIAL RATES.

Vessels arriving in ballast and trading outwards with certain cargoes.

(2) The dock tonnage rates to be charged in respect of every vessel arriving in ballast, and trading outwards with cargoes as prescribed below, which vessel shall receive the whole of such outward cargo whilst lying in the docks specified below, shall be one moiety of the dock tonnage rates for the time being chargeable in respect of vessels arriving in ballast, and trading outwards to the same port, and receiving their outward cargo in any other dock of the board than those mentioned:

(*a*) Cargoes consisting exclusively of coal or coke loaded for foreign or coastwise ports at the high level railway, in the Wellington dock or the Bramley-Moore dock, Liverpool, or in any part of the Great Float or Wallasey dock, Birkenhead, or partly in any one and partly in any other of such docks.

(*b*) Cargoes consisting exclusively of coal or coke, salt, iron, rails of steel, bricks, phosphate, and iron ore, or some of those articles loaded for foreign ports in any part of the great float or Wallasey dock, Birkenhead, or partly in the former and partly in the latter.

Provided that this arrangement shall only apply to the Wallasey dock so far as it can be done without interfering with the working of that dock in connection with the warehouse system; and further, that no vessel shall, under this arrangement, be allowed to use any other dock of the board than those above named, with the exception of the graving docks of the board, or for the sole purpose of going to or from the graving docks.

Vessels arriving in ballast and using the Birkenhead graving docks only.

(3) The dock tonnage rates to be charged on vessels arriving in ballast and passing through the Birkenhead docks for the sole purpose of going to or from and using the Birkenhead graving docks, without entering any of the Liverpool docks, shall be one moiety of the dock tonnage rates applicable to the most distant port to which such vessels may trade outwards, provided that the vessels do not load or discharge any goods

TABLE 5.—*Dock rates and town dues on goods*—Continued.

[NOTE.—(1) The principal imports and exports are here shown. (2) Under the board's act of Parliament, goods imported or exported coastwise are subject to dock rates, but by order of the board these rates are not at present collected.]

Articles.	Foreign.		Coastwise.	
	Inward dock rates and town dues.	Outward dock rates and town dues.	Inward town dues.	Outward town dues.
Hides, wet ..... cwt..	0 2	0 1	0 0½	0 0½
pieces of, or glue pieces ..... ton..	1 6	0 9	0 9	0 3
Honey ..... cwt..	0 3	0 1	0 1½	0 0½
Hops ..... do...	0 3½	0 2	0 1½	0 1
Horn piths, shavings, and slugs ..... ton..	0 9	0 4½	0 2½	0 2½
Horns, horn tips, and pieces of horns ..... do...	3 0	1 4	0 9	0 6
Ice ..... do...	0 3	0 1½	0 0½	0 0½
Indigo ..... cwt..	0 6	0 3	0 1½	0 1½
Instruments, musical ..... package..	1 0	0 6	0 3	0 2
optical ..... do...	0 6	0 3	0 3	0 1½
Iodine ..... do...	0 8	0 4	0 4	0 2
Iron and steel. * Class 1 ..... ton..	2 0	1 0	0 6	0 6
Class 2 ..... do...	1 6	0 9	0 4½	0 4½
Class 3 ..... do..	1 0	0 8	0 4	0 4
Class 4 ..... do...	0 11	0 7	0 3½	0 3½
Class 5 ..... do...	0 7½	0 6	0 3	0 3
Class 6 ..... do...	0 7½	0 4	0 2	0 2
Iron ore ..... ton...	0 3	0 1½	0 0½	0 0½
NOTE (1).—Iron ore outward, in casks, casks to pay in addition. See Empty packages. (2).—Iron ore discharged in Great Float.				
Istle ..... ton..	2 0	1 0	0 6	0 6
Ivory ..... cwt..	0 6	0 3	0 2	0 1½
Jewelry and mock jewelry ..... package..	0 8	0 4	0 4	0 2
Juice, currant, lemon, lime, and orange† galls ..... 100..	1 4	0 8	0 4	0 4
bottled ..... doz. qts..	0 1½	0 0½	0 0½	0 0½
Jute hemp ..... ton..	1 6	0 9	0 6	0 4½
NOTE.—Jute and jute cuttings for use in the manufacture of paper, provided, in the case of jute, that a certificate be given to that effect, are charged, ton	0 10	0 5	0 2½	0 2½
Kainit and kainit manure ..... ton..	0 8	0 4	0 2½	0 2

* Comprising the following descriptions:

	Class.		Class.		Class.
Anchors	1	Dished sheets	3	Rivets	1
Angle, all kinds of	3	Ferro manganese	6	Rod	3
Bar (including horseshoe)	3	Files	1	Rods	3
Bands of all kinds, whether with buckles attached or not	3	Galvanized	2	Rolled, round, in coils	3
Bedstead tubes	3	Gas pipes	3	Rope, old	5
Black taggers or plates	2	retorts	2	Safes	1
Blooms	5	Girders (like railway bars)	4	Scrap	5
Boilers and boiler tubes, bars and fittings	1	Gudgeons	1	Sheet	3
Bolt	3	Hoop, with or without ties attached	3	Spiegeleisen	6
Bolts	1	Hurdles	1	Springs	1
Borings	5	Ingots	5	Staples	1
Broken	5	Nuts	1	Stoves, common cast	5
Bushes, cart	5	Old	5	other than common cast	1
Button iron	1	Plate	3	Tapered knee	3
Canada plates	2	Plates	3	Tie bars	2
Cassada plates	1	Pig	6	Tramway car wheels	4
Cast, dressed, other than hardware	3	Puddled bars	5	Tubing	3
Cast, rough of all kinds not separately rated, including chairs and railway sleepers	5	Railway materials (all articles or materials for use in the construction of the permanent way of railways, except rough-cast chairs and sleepers; also tires and axles, wheels, parts of wheels and axles, and springs, when for use in connection with railway rolling stock)	4	Tire hoops, tires, and axles	3
Chain cables	1			Wire	2
Channel iron	4			netting, rigging, and web	1
Corrugated	2			rods	3
Cotton ties	3			rope	1
Crowbars	1			Manufactured, of every description other than hardware, and not separately rated	1

†Two gallons to be considered equal to 1 dozen quarts.

TABLE 5.—*Dock rates and town dues on goods*—Continued.

[NOTE.—(1) The principal imports and exports are here shown. (2) Under the board's act of Parliament, goods imported or exported coastwise are subject to dock rates, but by order of the board these rates are not at present collected.]

Articles.	Foreign.		Coastwise.	
	Inward dock rates and town dues.	Outward dock rates and town dues.	Inward town dues.	Outward town dues.
	s. d.	*s. d.*	*s. d.*	*s. d.*
Kernels, palm or ground nut ..... ton.	1 4	0 8	0 5	0 4
NOTE.—Palm kernels in transit, imported from foreign ports, and intended for immediate transshipment to vessels for coastwise ports, when a declaration to that effect, giving the names of the import and export vessel, is furnished by the importer, are charged ..... ton..	0 8			
Lace ..... package..	0 6	0 3	0 1½	0 1½
Lead and lead ore, and argentiferous lead and lead ores, ton*	1 6	1 0	0 6	0 6
black, red, and white ..... ton..	2 0	1 0	0 6	0 6
shot ..... do...	2 0	1 0	0 9	0 6
sugar of ..... do...	2 0	1 0	0 9	0 6
Leather unmanufactured, of all descriptions, cuttings, tanned, and chamois ..... cwt..	0 3	0 1½	0 1	0 0¾
Wrought:				
cwt	0 3			
package		0 4	0 2	0 2
Lime ..... ton..	0 8	0 4	0 1½	0 1½
acetate of, or lime salt, and chloride or muriate of lime ..... ton..	1 0	0 6	0 3	0 3
borate of ..... do...	2 0	1 0	0 8	0 4
Linen cloth:				
package	0 6	0 3	0 1½	0 1½
(loose) piece	0 1	0 0½	0 0½	0 0½
Licorice paste, powder, and root ..... ton..	2 8	1 4	1 6	0 8
Maccaroni and maccaroni paste ..... cwt..	0 5	0 2½	0 1½	0 1
Machines and machinery, loose or in packages ..... ton .	2 0	1 0	0 6	0 6
Madder, roots, and root dust ..... do ..	1 8	0 10	0 10	0 5
Magnesia ..... do...	2 0	1 0	0 9	0 6
Manganese† ..... do...	0 10	0 5	0 2½	0 2½
Marble, rough ..... do...	1 6	0 8	0 10	0 4
sculptured:				
package	0 8	0 4	0 4	0 2
loose ..... ton..	2 0	1 0	1 0	1 6
Matches, lucifer and paraffin:				
Package exceeding 1 cwt	0 6	0 3	0 3	0 1½
Package not exceeding 1 cwt	0 3	0 1½	0 1½	0 0¾
Matchwood, manufactured ..... ton..	2 0	1 0	0 6	0 6
Meal, flaxseed, linseed, oil-cake, and rape-seed ..... do...	1 6	0 9	0 4½	0 3
Medicines ..... package..	0 8	0 4	0 4	0 2
Mercury ..... do...	0 6	0 3	0 1½	0 1½
Milk, concentrated, condensed, and preserved ..... ton..	2 6	1 3	0 10	0 6
Mineral waters:				
100 gallons	0 9	0 6	0 3	0 3
Bottled, dozen quarts	0 0½	0 0½	0 0½	0 0½
Mohair ..... ton..	3 6	1 4	1 2	0 7
Molasses ..... do...	1 4	0 8	0 4	0 4
Mother-of-pearl shell ..... cwt..	0 3	0 1½	0 1	0 0¾
Mustard ..... ton..	4 0	2 0	1 7	1 0
Myrabolams ..... do...	1 2	0 7	0 3	0 3
Nails and spikes of all descriptions ..... do...	2 0	1 0	0 6	0 6
Naphtha, and spirits of ..... do...	2 6	1 3	0 11	0 6
Nutmegs ..... cwt..	0 3	0 1½	0 1½	0 0¾
Nuts,‖ betel, coquillo, coquiltra, corozo, or ivory ... ton..	2 0	1 0	0 9	0 6
ground, and all nuts for expressing oil therefrom, not otherwise rated ..... ton..	1 4	0 8	0 5	0 4
Oakum ..... do...	1 0	0 6	0 3	0 3

*NOTE.—Lead ore discharged in Great Float. See page 25.
†Manganese discharged in Great Float. See page 25.
‖Nuts (table fruit) see Fruit.

TABLE 5.—*Dock rates and town dues on goods*—Continued.

[NOTE.—(1) The principal imports and exports are here shown. (2) Under the board's act of Parliament, goods imported or exported coastwise are subject to dock rates, but by order of the board these rates are not at present collected.]

Articles.	Foreign.		Coastwise.	
	Inward dock rates and town dues.	Outward dock rates and town dues.	Inward town dues.	Outward town dues.
	s. d.	s. d.	s. d.	s. d.
Oil.* Class 1	2 9	1 2	1 2	0 7
Class 2	2 2	0 11	0 11	0 5½
Class 3	1 8	0 10	0 10	0 5
Class 4	0 6	0 3	0 3	0 1½
Oil of all kinds, boiled or manufactured since its importation ton		1 2		0 6
Oilman's stores (pickles, jellies, sauces, etc.) do	5 0	2 6	2 6	1 3
Opium cwt	0 3	0 1½	0 1½	0 0¾
Orchilla weed ton	2 2	1 1	1 0	0 6
Paints and painters' colors and materials do	2 0	1 0	0 6	0 6
Palm-nut meal and refuse do	1 0	0 6	0 4	0 3
Paper do	3 0	2 0	1 0	1 0
hangings do	3 0	1 6	1 0	0 9
waste do	0 10	0 5	0 2½	0 2½
Parcels, small packages, or sames, on which freight is paid† package	0 3	0 2	0 1	0 1
Peat moss and peat-moss litter ton	0 6	0 3	0 2	0 1½
Pepper, black and white do	2 8	1 4	1 6	0 8
Perfumery package	0 6	0 3	0 3	0 1½
Petroleum grease or residuum ton	0 11	0 5½	0 2½	0 2½
spirit, benzine, benzoline, gasoline, refined, ton	1 8	0 10	0 10	0 5
Phosphate rock and stone ton	0 5	0 2	0 1	0 1
Piassava do	2 0	1 0	0 6	0 6
Pickles do	5 0	2 6	2 6	1 3
in brine 100 gallons	0 9	0 6	0 4	0 3
Pitch of all kinds ton	0 10	0 5	0 2½	0 2½
Plants and trees package	0 4	0 2	0 2	0 1
Plate and plated ware do	0 8	0 4	0 4	0 2
Potash, bichromate, carbonate, prussiate, and salts of, ton	2 0	1 0	0 9	0 6
chlorate cwt	0 3	0 1½	0 1½	0 0¾
sulphate of ton	1 6	0 9	0 4½	0 3

* Comprising the following descriptions:

	Class.		Class.		Class.
Animal ton	3	Lubricating, not otherwise described ton	2	Peppermint package	4
Almond package	4	Machinery do	2	Petroleum ton	3
Bays do	4	Menhaden tun	2	Pitch do	3
Binnacle ton	1	Mineral, of all kinds ton	3	Poppy package	4
Capaiba package	4	Mowa-seed do	1	Rape ton	1
Castor ton	1	Mustard-seed package	4	Rock do	3
Chemical package	4	Of geraniums do	4	Rosa package	4
Cloth ton	2	Oleine tun	1	Rosin ton	3
Clove package	4	Olive do	1	Sandalwood package	4
Cocoanut ton	1	Palm ton	2	Sassafras do	4
Cod tun	2	Palm oil in transit, imported from foreign ports and intended for immediate transhipment to vessels for coastwise ports, when a declaration to that effect, giving the names of the import and export vessel, is furnished by the importer, is charged 11d. per ton.		Seal tun	2
liver package	4			Sesame ton	1
Colza ton	1			Shark tun	2
Copra nut do	1			Spanish fish, or oil extracted from sardines or sprats, ton	2
Cotton-seed do	1			Sperm ton	1
Croton package	4			Spermaceti do	1
Dubbing ton	1			Tallow do	1
Earth do	3			Tar package	4
Essential package	4			Teel-seed ton	1
Fusel ton	1			Train or whale tun	2
Gingelly do	1			Watch do	1
Groundnut do	1			Walnut package	4
Herring tun	1			Whalefoots ton	2
Lard ton	1			Wintergreen package	4
Lignite tun	1	Palm-nut ton	2		
Linseed ton	1	Paraffin do	3		
Lisbon seed tun	1	Paran package	4		

Oil, olive or salad, in flasks, bottles, or tins, as "oilman's stores."

† Passengers' luggage, when accompanied by passenger, exempt on being certified to as private *effects for* personal use, and are not intended for merchandise."

TABLE 5.—*Dock rates and town dues on goods*—Continued.

[NOTE.—(1) The principal imports and exports are here shown. (2) Under the board's act of Parliament goods imported or exported coastwise are subject to dock rates, but by order of the board these rates are not at present collected.]

Articles.	Foreign.		Coastwise.	
	Inward dock rates and town dues.	Outward dock rates and town dues.	Inward town dues.	Outward town dues.
	s. d.	s. d.	s. d.	s. d.
Poultry*.....package..	0 2	0 1	.....	.....
Prints or pictures.....do....	0 8	0 4	0 2	0 1
Private effects .....do....	0 8	0 4	0 4	0 2
Provisions:				
Bacon and hams .....ton	2 2	1 0	0 10	0 6
Beef and pork—				
Hogshead, cask or puncheon.....	0 6	0 3	0 1½	0 1½
Tierce.....	0 3½	0 2	0 1	0 1
Box, case, barrel, or bale, not exceeding 200 pounds.	0 2½	0 1	0 0½	0 0½
Half-barrel, drum, or smaller package	0 1½	0 0½	0 0½	0 0½
Bread †.....ton..	2 8	1 4	0 8	0 5
Butter and butterine.....do....	2 6	1 3	0 10	0 6
Cheese.....do....	1 6	0 8	0 4	0 4
Lard .....do....	2 2	1 0	0 10	0 6
Meat fresh, in packages, or bulk .....do ...	2 2	1 0	0 10	0 6
Meat, preserved, or soups of all kinds.....do ...	4 0	2 0	1 5	1 0
Pyrites‡.....do....	0 4	0 2	0 1	0 1
Quicksilver.....package..	0 2	0 1	0 0½	0 0½
Rags .....ton..	0 10	0 5	0 2½	0 2½
Rice and rice flour .....do ...	1 6	0 9	1 0	0 5
meal and refuse .....do ...	1 0	0 4½	0 3	0 2
Rosin .....do....	1 6	0 9	0 6	0 4
Sago .....do....	2 8	1 4	1 8	0 8
flour .....do....	2 0	1 0	1 1	0 6
Sal ammoniac and gem .....do....	2 4	1 2	1 2	0 7
Salt in bottles, and table salt in packages containing bags or boxes .....package..	0 1	0 0½	0 0½	0 0½
waste or refuse for manure, other than kainit or muriate of potash .... ton..	0 4	0 2	0 1	0 1
white and rock.....do ...	0 6	0 3	0 1½	0 1½
Salt-cake.....do ...	1 0	0 6	0 3	0 3
Saltpeter.....do....	1 10	0 11	0 11	0 5½
Sand for iron founders and glass blowers.....do....	0 2½	0 1½	0 0½	0 0½
Seed :§ Class 1 .....do....	3 4	1 8	1 0	0 10
Class 2 .....do....	2 8	4	0 8	0 8
Class 3 .....do ...	2 0	1 0	1 0	0 6
Class 4 .....do....	1 6	1 8	0 8	0 4
Class 5 .....do....	1 1	0 6½	0 4	0 2½
Shale.....do....	0 5	0 1½	0 1	0 1
Shakes or shooks, hogshead, puncheon, tierce, barrel, half-barrel, or quarter cask	0 1	0 0½	0 0½	0 0

* Exempt from town dues.

§ Comprising the following descriptions:

† Bread in tanks; tanks to pay in addition as iron, class 1.

‡ Pyrites discharged in Great Float.

	Class.		Class.		Class.
Agasie	4	Fennel	1	Mustard	3
Agricultural	2	Fenugreek	5	Niger	3
Alganobilla	1	Flax	4	Poppy	5
Algarobba	1	Forest	2	Rape	4
Aniseed	1	Furze	3	Rib grass	2
Annato	1	Gambeh	1	Rye grass	2
Benni	4	Garden	2	Safflower	1
Cardamom	1	Gezelin	1	Sesame or sesamum	4
Canary	3	Gingelly	4	Stavesacre	1
Caraway	2	Grass	2	Sursee	4
Castor	4	Hawthorn	1	Sunflower	5
Chicory	1	Helba	5	Teel	4
Cinnamon	1	Hemp	4	Timothy	2
Clover	2	Khoorsany	3	Trefoil	2
Coffee	1	Kurdee	4	Wild mustard	3
Coriander	1	Linseed	4	Worm	1
Cotton	5	Lupin	3	For expressing oil therefrom	4
Croton	1	Madder	2	Not otherwise described or rated	1
Cummin	1	Mathee	4		
Dholls	4	Maw	1		
Egusi	1	Millet	5		

TABLE 5.—*Dock rates and town dues on goods*—Continued.

[NOTE.—(1) The principal imports and exports are here shown. (2) Under the board's act of Parliament goods imported or exported coastwise are subject to dock rates, but by order of the board these rates are not at present collected.]

Articles.	Foreign.		Coastwise.	
	Inward dock rates and town dues.	Outward dock rates and town dues.	Inward town dues.	Outward town dues.
	s. d.	*s. d.*	*s. d.*	*s. d.*
Shea butter ..... ton	2 2	0 11	0 11	0 5½
Sumac, sumac leaves, and powder ..... do	1 4	0 8	0 5	0 4½
Silk, manufactured, organzine, or crape ..... package	0 6	0 3	0 1½	0 1
raw or thrown ..... 100 pounds	0 8	0 4	0 2	0 1½
waste ..... do	0 4	0 1½	0 1	0 0½
Silver bars ..... each	0 10	0 4	0 6	0 2½
Silver dross, ore, and regulus, and platina ore ..... ton	2 0	1 0	0 9	0 6
Skins,* sheep or lamb, including pelts, skivers, kip, calf, goat, pig (dressed or undressed), and Newfoundland hair seal skins ..... cwt	0 2	0 1	0 0½	0 0½
Skins, all other ..... do	0 4	0 2	0 1	0 1
Slate and slate slabs ..... ton	0 6	0 3	0 1½	0 1½
Slates, writing ..... do	2 0	1 0	0 8	0 6
Soap, and soft soap † ..... do	1 8	0 10	0 8	0 5
scented or fancy ..... package	0 6	0 3	0 3	0 1½
Soap stock ..... ton	0 11	0 5½	0 2½	0 2½
Soda, ash, bicarbonate, carbonate, caustic, silicate and sulphate of ..... do	1 0	0 6	0 3	0 3
nitrate of ..... do	1 8	0 10	0 10	0 5
Specie ..... package	0 10	0 4	0 6	0 2
Spelter ..... ton	1 0	0 6	0 3	0 3
Spirits and wine:				
Brandy and wine ..... 100 gallons	1 5	0 8	0 9	0 4
Other spirits ..... do	1 4	0 8	0 8	0 4
Spirits and wine,‡ in bottles ..... doz. qts	0 1½	0 0½	0 0½	0 0½
NOTE.—Whisky in bottles imported coastwise and afterward exported foreign, when the necessary declaration is furnished, is charged ..... doz. qts	.....	0 0½	.....	.....
NOTE.—Geneva (common) in transit, when the value does not exceed 4*s.* per case containing not more than 1 dozen quarts, is charged ..... case	.....	0 0½	.....	.....
Sponge ..... cwt	0 6	0 3	0 3	0 1½
Starch ..... ton	2 4	1 2	1 1	0 7
Stationery ..... package	0 6	0 3	0 3	0 1½
Stearin ..... ton	2 8	1 4	1 4	0 8
Stones, breaking, paving, or other stones for making or repairing roads ..... ton	0 2½	0 1½	0 0½	0 0½
emery ..... do	0 10	0 5	0 2½	0 1½
grinding ..... do	0 3	0 3	0 2	0 2
Straw ..... do	0 6	0 3	0 2	0 1½
boards ..... do	1 6	0 9	0 4½	0 4½
plait ..... package	0 4	0 2	0 1½	0 1
Sugar (not refined) ..... ton	2 1	0 11	0 9	0 5
refined ..... do	3 0	1 2	1 3	0 7
Sundry articles (referred to in appendix):				
Class 1	5 0	2 6	1 3	1 3
Class 2	3 0	1 6	0 9	0 9
Class 3	2 0	1 0	0 6	0 6
Class 4	1 6	0 9	0 4½	0 4½
Class 5	1 0	0 6	0 3	0 3
Class 6	0 8	0 4	0 2	0 2
Class 7	0 6	0 3	0 1½	0 1½
Class 8	0 4	0 2	0 1	0 1
Class 9	0 3	0 1½	0 0½	0 0½
Class 10	0 2	0 1	0 0½	0 0½
Class 11	0 1	0 0½	0 0½	0 0½
Class 12	0 0½	0 0½	0 0½	0 0½
Superphosphate ..... ton	0 9	0 4½	0 2½	0 1½
Syrup ..... do	1 4	0 8	0 4	0 4
Talc ..... do	2 0	1 0	0 6	0 6
Tallow ..... do	2 3	1 1½	1 0	0 6
Tapioca ..... cwt	0 2	0 1	0 0½	0 0½
flour ..... ton	2 0	1 0	1 1	0 6
Tar:				
Barrel	0 2	0 1	0 0½	0 0½
One-half barrel	0 1	0 0½	0 0½	0 0½
Smaller package, per 7 gallons	0 0½	0 0½	0 0½	0 0½
Tartar, tartar crystals, and lees ..... ton	2 2	1 1	1 0	0 6½
cream of ..... do	2 2	1 1	1 0	0 6½
Tea ..... do	2 6	2 6	1 3	1 3
Terne plates or sheets ..... do	1 6	0 9	0 4½	0 4½
Terra alba and umbra ..... do	1 0	0 6	0 3	0 3

* Fifty Newfoundland hair seal skins to be considered as equivalent to 1 cwt.

† *Soap in tanks*; tanks to pay in addition as iron, class 1.

‡ *Two gallons to* be considered equal to 1 dozen quarts.

TABLE 5.—*Dock rates and town dues on goods*—Continued.

[NOTE.—(1) The principal imports and exports are here shown. (2) Under the board's act of Parliament, goods imported or exported coastwise are subject to dock rates, but by order of the board these rates are not at present collected.]

Articles.	Foreign.		Coastwise.	
	Inward dock rates and town dues.	Outward dock rates and town dues.	Inward town dues.	Outward town dues.
	s. d.	s. d.	s. d.	s. d.
Tin of all kinds ..... do...	2 3	1 0	0 11	0 6
plates and tinned sheets ..... do...	1 6	0 9	0 4½	0 4½
Tissues ..... package..	0 6	0 3	0 1½	0 1½
Tobacco ..... ton..	2 0	1 0	0 9	0 5
pipes, clay:				
Case or box	0 2	0 1	0 0½	0 0½
Half case or box	0 1	0 0½	0 0½	0 0½
Smaller package	0 0½	0 0½	0 0½	0 0½
Tow and tow waste ..... ton..	1 0	0 6	0 3	0 3
Toys ..... package..	0 6	0 3	0 3	0 1½
Tumeric ..... ton..	2 0	1 0	1 4	0 6
Turpentine, spirits of ..... do...	2 2	1 1	0 10	0 6½
Twine ..... do...	2 6	1 3	1 3	0 7½
Ultramarine ..... do...	2 6	1 3	1 3	0 7½
Umbrellas and umbrella frames ..... package..	0 6	0 3	0 3	0 1½
Valonia, valonia nuts, powder, and root ..... ton..	1 10	0 11	0 11	0 5½
Vegetables:				
Onions—				
Loose ..... bushel..	0 1	0 0½	0 0½	0 0½
Package exceeding 28 pounds	0 1½	0 0½	0 0½	0 0½
Package not exceeding 28 pounds	0 0½	0 0½	0 0½	0 0½
Potatoes ..... ton..	0 6	0 3	0 2	0 1½
Tomatoes—				
Package exceeding 28 pounds	0 2	0 1	0 1	0 0½
Package not exceeding 28 pounds	0 0½	0 0½	1 0½	0 0½
Other vegetables, dried and raw—				
Loose ..... ton..	0 6	0 3	0 2	0 1½
Package	0 1½	0 0¾	0 0½	0 0¾
Vegetables, all kinds of preserved, and in tins .. ton..	3 0	1 6	1 0	0 9
Vinegar and verjuice:*				
100 gallons	0 8	0 4	0 2	0 2
Bottled, per dozen quarts	0 1	0 0½	0 0½	0 0½
Wagons, railway ..... ton..	2 0	1 0	0 6	0 6
Wax ..... owt..	0 2	0 1	0 1	0 0½
Wearing apparel ..... package..	0 6	0 3	0 1½	0 1½
Whiting ..... ton..	1 0	0 6	0 3	0 3
Wood:†				
All timber in the log, round or square, hewn or sawn, dressed or partly dressed (other than furniture and fancy woods); fitches; knees; oak, teak, and other hard-wood planks; all rough round spars, unbarked or undressed, mining timber, uffers, etc., 4 inches diameter and upwards, pit props .. load‡..	1 0	0 5	0 6	0 2½
All spars, poles, rickers, uffers, etc., round or square, under 4 inches diameter, 22 feet long and upwards, 120 pieces	2 10	1 0	0 10	0 6
All spars, poles, rickers, uffers, etc., round or square, under 4 inches diameter, and under 22 feet long, 120 pieces	1 3	0 6	0 6	0 3
Railway sleepers and sleeper blocks ..... load ‡..	0 5	0 2	0 2	0 1
Oars, oar rafters, boat hooks, and handspikes, 120 pieces	0 3	0 1	0 1	0 0½
Wedges, wheel spokes, felloes and hubs ... 1,200 pcs..	1 4	0 6	0 3	0 1½
Treenails ..... 1,200 pieces..	0 8	0 3	0 3	0 1½
Palings, sawn pickets, staves, and laths ..... load ‡..	0 6	0 2	0 3	0 1
Lathwood, dunnage, fire-wood, and billetwood, fathoms of 216 feet	0 5	0 2	0 2	0 1
Deals, battens, planks, scantling, boards, and ends of spruce, pine, fir, and pitch pine, not exceeding 4 inches in thickness, Petersburg standard	1 3	0 6	0 6	0 3
Doors, loose ..... 20 pieces..	0 10½	0 3½	0 4½	0 1½
Hoops—				
Exceeding 9 feet in length ..... 1,200..	0 6	0 4	0 2	0 1
Nine feet in length and under ..... 1,200..	0 3	0 2	0 1	0 0½
not otherwise rated ..... load ‡..	1 0	0 5	0 6	0 2½

* Two gallons to be considered equal to 1 dozen quarts.

† Mining timber and pit props discharged in the Great Float, Birkenhead, are charged only half these rates.

‡ A load to be taken as 50 cubic feet of Queen's calliper measure, or extreme measure.

TABLE 5.—*Dock rates and town dues on goods*—Continued.

[NOTE.—(1) The principal imports and exports are here shown. (2) Under the board's act of Parliament, goods imported or exported coastwise are subject to dock rates, but by order of the board these rates are not at present collected.]

Articles.	Foreign.		Coastwise.	
	Inward dock rates and town dues.	Outward dock rates and town dues.	Inward town dues.	Outward town dues.
Furniture and fancy woods, etc.				
	s. d.	s. d.	s. d.	s. d.
Wood, * cedar, mahogany, walnut planks, and burrs.....ton..	1 4	0 6	0 5	0 3
all other furniture, fancy and turnery woods and lancewood.....ton..	1 6	0 6	0 6	0 3
Dye. (*See* Dyewoods.)				
Woodware or woodwork.....do...	2 0	1 0	0 6	0 6
Wool.....do...	3 6	1 4	1 2	0 7
Woollens:				
Loose.....piece..	0 1	0 0⅓	0 0½	0 0½
Package.....	0 6	0 3	0 1½	0 1½
Yarn, cotton or twist.....cwt..	0 2	0 1	0 0½	0 0½
linen, jute, flax, hemp, and spun.....ton..	2 0	1 0	0 6	0 6
linen, cotton, twist, and jute.....package..	.....	0 3	.....	0 1½
Zinc, zinc manufactures and dust.....ton..	1 0	0 6	0 3	0 3
oxide.....do...	2 0	1 0	0 6	0 6
sulphate of.....do...	1 6	0 9	0 4½	0 3
Articles (imported and exported in packages) which are not otherwise particularized or rated, viz:				
Hogshead, puncheon, cask, or package not otherwise described.....	1 0	0 6	0 3	0 3
Tierce, bale, skip, box, case, chest, trunk, pack, or truss..	0 8	0 4	0 2	0 2
Crate or half-crate.....	0 6	0 3	0 1½	0 1½
Barrel, half-barrel, drum, and carboy.....	0 4	0 2	0 1	0 1
Firkin, keg, hamper, half-hamper, bag, basket, bundle, or smaller package.....	0 2	0 1	0 0½	0 0½

* Maple and whitewood not being for use as furniture or fancy wood, is charged as wood, not otherwise rated.

*THE LIVERPOOL PORT SANITARY AUTHORITY.**

[Inclosure 3 in Consul Sherman's report.]

Under the provisions of section 287 of the public health act, 1875, the corporation of Liverpool have been appointed the sanitary authority for the port of Liverpool, which "commences at the termination of the port of Chester, namely, at the Red Stones in Hoylake on the point of Wirral, and continues up the River Mersey to Ince Ferry inclusive, being the eastern termination on the Cheshire shore of the port of Runcorn; thence crossing the River Mersey in a straight line to Dungeon Point, being the western extremity on the Lancashire shore of the said Port of Runcorn; and continues along the coast of the county of Lancashire to a gutter or river of water, commonly called the Hundred-end water, on the south side of the River Ribble, being the southern boundary of the Port of Preston, and shall include all rivers, bays, channels, roads, bars, strands, harbors, havens, streams, and creeks within the said limits contained, and shall extend seawards to a distance of 3 miles from low-water mark along the coast within the aforesaid limit." This is a most extensive area to supervise, but fortunately, with the exception of fishing boats at Hoylake and Southport, all vessels have to enter the Mersey to reach the Liverpool, Birkenhead, and Garston docks, so that should there be infectious disease on board any ship information can at once be conveyed to the medical officer of health. To facilitate the working of the order the corporation of Liverpool have delegated to the Birkenhead head corporation their powers, rights, and duties over the Birkenhead docks and the vessels lying in them.

There is, however, unfortunately, a dual medical authority at the port of Liverpool; for besides the medical officer of health there is a medical officer appointed by the customs under the old quarantine act of George III, which is reënacted by the public health act of 1875, and states further that, "Every vessel having on board any person affected with a dangerous or infectious disorder shall be deemed to be within the provisions of the act of the sixth year of King George the Fourth, chap-

* On "The Port Sanitary Authority, Liverpool, and its work," by J. Stopord Taylor, M. D. Read September 22, 1887, at the congress of the institute held at Bolton.

ter 78, although such vessel has not commenced her voyage, or has come from or is bound for some place in the United Kingdom." Excluding the management of cholera ships, which are placed under the control of the medical officer of health by a special order of the local government board, all other infected ships are to be visited by the customs medical officer, and are liable to quarantine. By the 39 and 40 Victoria, c. 36, s. 234, the privy council may from time to time require that no person shall land from a ship coming from a place infected with yellow fever or other infectious disease, until the officers of the customs have examined into the state of health of the persons on board and given permission to land, any person being liable to a penalty of £100 for disobedience. These powers of the customs, acting under the authority of the privy council, are in a measure antagonistic and opposed to the satisfactory working of the port sanitary authority. Section 110 of the public health act, 1875, states that, "For the purpose of the provisions of this act relating to nuisances, any ship or vessel lying in any river, harbor, or other water within the district of a local authority shall be subject to the jurisdiction of that authority in the same manner as if it were a house within such district." Section 124 states, "Where any suitable hospital or place for the reception of the sick is provided within the district of a local authority, or within a convenient distance of such district, any person who is suffering from any dangerous infectious disorder, and is without proper lodging or accommodation, or lodged in a room occupied by more than one family, or is on board any ship or vessel, may on certificate signed by a legally qualified medical practitioner, and with the consent of the superintending body of such hospital or place, be removed, by order of any justice, to such hospital or place, at the cost of the local authority." By section 125, "Any local authority may make such regulations (to be approved by the local government board) for removing to any hospital to which such authority is entitled to remove patients, and for keeping in such hospital so long as may be necessary, any persons brought within their district by any ship or boat who are infected with a dangerous infectious disorder."

It will thus be seen that the local authority has given to it, by the public health act, every power necessary for the inspection, examination, and disinfection of ships, as well as the removal to hospital of infected persons; and further, I may state, the local authority is fully provided with the means and appliances requisite for the proper performance of the duties; whereas the customs officer pays a visit to an infected ship, signs some official documents, and takes his departure. That is all he can do, unless he places the ship in quarantine, which is only done when the vessel is infected, or supposed to be infected, with yellow fever, and even then application has to be made to the medical officer of health for assistance before she can be released. It is quite time that the quarantine act was altogether abolished, as its powers are useless for any good purpose and are capable of much mischief by retarding commerce and delaying efficient sanitary supervision.

It may possibly be of some advantage for the privy council to retain through the customs some kind of authority over infected ships, but it is difficult to discern their object when, as occurred a few years ago, a large steamship, having many passengers and a large cargo, was quarantined for 5 days, without having a single case of sickness on board, simply because she had come from a port infected with yellow fever, and had lost three or four persons during the voyage. Surely, if they wished to have an outbreak of the disease, they could not have adopted more likely measures than isolating both passengers and crew on shipboard and cutting them off from all outside communication. This course might be followed by Spain and Italy, where yellow fever occasionally spreads, but in Liverpool, where the disease never comes and is entirely unknown, it is perfectly absurd. If the privy council have reason to believe that yellow fever might be introduced, let them make an order somewhat similar to the cholera order of the local government board, and that sanitary supervision, not obsolete quarantine, be their instruction.

The port sanitary authority has a hospital situated at New Ferry, Cheshire, capable of accommodating 24 patients, with sufficent land for tents or sheds, if required, for two or three hundred persons. This hospital has been used for cholera patients only, all cases of the other infectious diseases are removed to hospitals in the city. For the purpose of removal the ambulances and staff of the city are utilized, as well as for the disinfection of ships, and thus a considerable saving is effected by an arrangement with the health committee that the medical officer of health may use any carriage, men, or material belonging to them, instead of keeping a separate establishment, which could only be done at a considerable cost.

Vessels are not quarantined for smallpox, typhus, typhoid, scarlet, and malarial fevers. The patients are removed to hospital and the ships disinfected; in fact, a vessel is treated in every way as a dwelling house, the cabins (occupied by the sick and the attendants) are fumigated with sulphur and then well ventilated and cleansed down. The large steamship companies knock down the cabins and burn them, with the beds and fittings, to avoid any risk of contagion being left on board.

When a vessel arrives in the Mersey having, or having had, cholera on board, the customs authority, in accordance with the cholera order of the local government

board, immediately communicates the fact to the medical officer of health and detains the ship for his inspection. The medical officer then boards the ship, inquires as to the amount and character of sickness since leaving the last port, examines the sick people, as well as the crew and passengers, and if satisfied that the ship is infected, a certificate to that effect is given to the master, who then moves the vessel to the Sloyne, being that part of the river agreed upon for mooring infected vessels. All persons who are well and not required for the management of the ship are allowed to land, a record being kept of their addresses. The sick, if able or as soon as able, are removed to hospital, and the ship thoroughly disinfected and cleansed. In the case of cholera ships which arrived in Liverpool in 1884 every part of them was fumigated with sulphur, the bedding and clothing being freely exposed to the vapors. Carbolic acid was mixed with the water in the tanks and bilges, and then pumped into the river at ebb tide. The bedding and clothing of the sick were burned, the remainder were taken to the disinfecting stoves and submitted to a high temperature for 8 hours. All the refuse of the ships, including the ashes from the boiler fires and the dirt from the bilges, was put on board the corporation steam hoppers and taken 30 miles out to sea, where it was discharged. As a result of these precautionary measures the disease was stayed and there were no fresh cases.

For the purpose of carrying out the sections of the public health act, 91 to 111, relating to inspections and nuisances on shipboard, it is necessary to have an inspector who is as conversant with the construction, management, and condition of vessels as an ordinary inspector of nuisances is with dwelling houses, otherwise he would not be able to report as to the wholesome condition of ships, with reference to ventilation, water storage, bilges, closets, and the condition of the quarters of the crew as to ventilation, lighting, dampness, cleanliness, etc. The Liverpool port sanitary authority have been fortunate in securing the services as inspector of Mr. J. J. Brown, who holds the certificate of master, and has been in command of large steamers and sailing ships. Single-handed he does a large amount of work in visiting ships, superintending the removal of sick persons, and the disinfection of vessels. Last year he inspected 4,120 vessels, of which 3,844 were found in fair or good sanitary condition, and 276 defective. In 105 the forecastles, peaks, deck-houses, or cabins required cleansing and painting or lime-washing, and in some of them the forecastle scuttle doors wanted repairing or renewing. In 12 the bulkheads were faulty, in 91 defective ventilators, in 50 imperfect closets, and in 18 the deck over the quarters occupied by the crews required caulking. It is a pleasing fact to state that since the appointment of the authority it has not been necessary to take legal proceedings in a single case, the owners or managers being willing to comply with all requirements, and consequently there is a great improvement in all classes of vessels.

The Mersey partakes more of the character of an estuary than a river, and is frequently so crowded with shipping that it would be difficult to appoint a boarding station, as on the Thames or Tyne, for the inspection of all vessels entering the port. Besides, it would never do to detain a large steamer without good reason, and cause her to lose a tide in docking, as it would entail not only delay but might inflict a considerable loss on the owners. We must trust to the intelligence and honesty of shipmasters to give true reports to the customs officers of the health of their crews and passengers, for it is to their interest that the ships should be free from infection, otherwise they might have to suffer from the rigorous quarantine of foreign countries. The rapidity with which steamers cross the Atlantic permits the introduction of some infectious diseases during the period of incubation; the disease not being manifested until after the passengers have landed. Many instances of this have occurred, notably where people have landed apparently well and subsequently developed smallpox. This risk must be met by our second line of defense, the good sanitary condition of our towns and cities.

In conclusion, perhaps I might suggest the desirability of ship surgeons being brought into direct communication with the medical officer of health, and that they should submit to that officer full reports of the health of the ships during the outward and homeward passages. This would be an advantage to the officers themselves, as they would thus obtain official recognition of their position and have the support of the sanitary authority.

Dr. Mason (Hull) opened the discussion on Dr. Taylor's paper. He said he represented the third port of the kingdom, and should like briefly to allude to the questions introduced into the paper as to dual control and the inspection of ships. In the port of Hull they had no such thing as a customs medical officer. The control was in the hands of the port sanitary medical officer at Hull. In listening to Dr. Taylor's paper it appeared to him that at Liverpool they had two antagonistic officers. His experience as to not finding it necessary to resort to legal proceedings to enforce orders on ships entirely agreed with his own. Their port sanitary regulations were developing, inasmuch as they had recently obtained a provisional order from the local government board extending their powers in a most important degree. The action of the local government board in this matter showed the importance they attached to the

maintenance of the public health, and to the prevention of the inroads of various diseases through importation. As to the importation of yellow fever he was particularly interested, having recently had an experience of it. The measures taken were these: The customs, immediately on the arrival of the ship, notified the illness; the vessel was immediately inspected by the medical officer of health; the persons affected removed to the hospital, and the ship disinfected and released. The question of quarantine was not entertained. Some suggestions had been made with reference to the whole question of quarantine. It had been mentioned by Professor Corfield that a conference was to be held in London, and it was suggested that those having the jurisdiction of port sanitary authorities in England should be represented strongly as to the best means of dealing with infectious diseases imported into the country. He must say that those who had to administer public health in connection with their shipping should be well selected. The duties were not learned in a few days; they were only gained by years of experience, and it was highly essential that in these appointments the selection should fall on experienced men. If the duties were thoroughly understood and properly carried out little difficulty would be experienced in complying with the various acts of parliament. As Dr. Taylor suggested, he thought each ship carrying passengers and emigrants should contain a surgeon, part of whose duty it should be to report to the medical officer of health what sickness there had been during the voyage. Suspicious cases should not be allowed to pass unnoticed, and hospital accommodations should be provided for infectious diseases. In Hull, it was one of their systems of inspection that after a suspicious case had been removed for isolation the ship was visited daily, whilst in the port, by an experienced inspector, with a view to ascertain if any further illness occurred. He sincerely hoped the question of quarantine would not be lost sight of, but would be considered by the international congress when it met in London; it was important from a medical as well as a commercial point of view.

Dr. J. F. J. Sykes (London) regarded it as an absolute necessity to settle this question of quarantine, concerning as it did not only preventive medicine but also the whole commerce of the country. It was a trader's as well as a medical officer's question, and he trusted that at the international medical congress the medical profession would muster very strongly and fight the battle of inspection and isolation against the quarantine system. It was necessary to convince Europe that the quarantine system was fallacious, and was breaking down wherever it was established. The eyes of the foreigner were being opened to the fact that the isolation system was not purely a mercenary one. He believed they would be able to prove to the foreigner's satisfaction that the fundamental basis was sanitary. It was a question of world-wide import, and every opportunity should be seized to press it home.

Dr. J. F. Tatham (Salford) added his testimony as to the cardinal importance of the matter brought under notice. He regarded it as nothing less than a national calamity that the international congress of 2 years ago, despite the weighty evidence of Dr. Thorne, H. M. inspector under the local government board, found it impossible to convince the representatives of foreign powers that inspection was the right and quarantine the wrong thing. Every effort ought to be made, at the forthcoming congress on British soil, to convince the foreign delegates of the desirability of substituting the British scientific principle of medical inspection and isolation of individual sick cases for the absurd and vexatious system of mere quarantine, which now prevailed in so many foreign countries.

Dr. E. W. Hope (Liverpool), in replying for Dr. Stopford Taylor, thought every one must be agreed as to the immense superiority of medical inspection of vessels over quarantine. In dealing with every other form of disease they found medical inspection to answer perfectly well, and there had been no reason to question its efficacy in the case of cholera. In Liverpool they had a fairly good notice, as a rule, of approaching disease, whether cholera or anything else. Persons were removed to hospital when thought necessary, and the ship thoroughly disinfected and cleansed. In regard to dealing with smallpox, the plan in vogue is this: The vessel is boarded in the first instance by the customs authorities, and if sickness were found on board they notified the fact to the health department; the officers of this department visited the vessel and removed the patient to hospital and disinfected the ship. In regard to the dual control, disapproved of by Dr. Taylor, the position of the quarantine medical officer was rather curious, because if he visited he could merely certify the nature of the illness to the sanitary authority, or their medical officer, and had no further powers. Dr. Taylor referred to the importance of having a master mariner to occupy the position of inspector of ships. This was a matter absolutely essential, because it took years to gain the requisite knowledge of ships and shipping to say whether a vessel was in a sanitary condition or not. In their case the appointment of a master mariner had been favorably spoken of, and it was likely others would in time follow the same plan. An immense number of emigrants came through from Hull, London, or Newcastle, the average for 4 or 5 years having been about 150,000. If sickness broke out, they detained a batch when necessary, rather than incur risk of further outbreak.

GIBRALTAR.

REPORT BY CONSUL SPRAGUE.

PILOTAGE.

No pilotage law sexist in Gibraltar, hence pilotage is not compulsory; besides, it is seldom that vessels require the services of a pilot to enter the port of Gibraltar, unless for mooring or moving them from one part of the bay to the other.

Anything relating to pilotage service is generally performed by a few experienced boatmen of the port, duly authorized to act in that capacity by the captain of the port.

The following are the charges for such service, vessels of all nationalities faring alike, viz:

For a vessel under 100 tons	$2.00
For a vessel from 101 to 200 tons	3.00
For a vessel from 201 to 400 tons	4.00
For a vessel over 400 tons	5.00

These sums include boat hire in fine weather, otherwise the usual scale of fare for boat hire is charged according to the foul-weather flag hoisted by the port department, unless the pilot be supplied with a boat by the vessel employing him.

Any dispute arising on account of fees for services rendered is settled at the port office.

LIGHTS AND LIGHT DUES.

With the exception of vessels of war and yachts of all nationalities, all vessels fare alike in any charges levied against them for light dues, for the keeping of the lighthouse erected on the southeastern extremity of the Rock of Gibraltar, called Europa Point.

Vessels without regard to size or description entering and leaving the port in ballast, or those coming from the United Kingdom with cargo, pay no light dues upon arrival, but they are charged 1 peseta and 25 centimos on their departure with cargo.

Vessels coming from any other part of the world with cargo, and leaving port with cargo, pay 2 pesetas and 50 centimos.

The light dues are paid into the port-office department of Gibraltar by the master or agent of the vessel on settling its port charges.

The light-house at Europa Point is about 70 feet high, shows a fixed bright light from an elevation of about 150 feet above the sea level, and is visible about 15 miles in clear weather. Its apparatus is dioptric, and is of the first order.

A red light is visible over an arc of 23° viz, within the bearings SW. by W. $\frac{3}{4}$ W. and W. $\frac{1}{4}$ S. from the light-house, and extends three-quarters of a mile to the southward of the Pearl Rock.

TONNAGE DUES.

Gibraltar being considered a free port, vessels of all nationalities are exempt from tonnage dues or taxes, but are charged with anchorage or port dues, when arriving at, or touching at, or having any kind of communication with the city, territory, shipping, or anchorage of Gibraltar.

Foreign vessels are permitted to participate in all kinds of carrying trade with Gibraltar, and no distinctions exist with regard to vessels entering or clearing under any flag with cargo or in ballast.

Vessels of war and yachts of all nationalities are exempt from all port dues.

Vessels plying between the opposite roadstead of Algeciras with passengers on board are also exempted from paying port dues.

The rates charged to ships and vessels arriving at, touching at, or having communication with the port of Gibraltar are as follows:

1 to 10 tons inclusive	Free.	1,101 to 1,200	pesetas each.. 90
11 to 600	centimos per ton.. 10	1,201 to 1,300	do.... 95
601 to 700	pesetas each.. 65	1,301 to 1,400	do.... 100
701 to 800	do.... 70	1,401 to 1,500	do.... 105
801 to 900	do.... 75	1,501 to 1,600	do.... 110
901 to 1,000	do.... 80	1,601 to 1,700	do.... 115
1,001 to 1,100	do.... 85	1,701 to 1,800	do.... 120

For every vessel from 1,801 tons and upwards, 125 pesetas.

In addition to each of the foregoing rates, when a ship or vessel is liable to quarantine, a further duty is charged for the service of health guards, as follows:

	Pesetas.
For any service not exceeding 3 hours	2.50
6 hours	5.00
12 hours	10.00
18 hours	15.00
Watching vessels in quarantine in guard boat for a day or part of it (including hire of boat)	25.00
Any time not exceeding one-half day after the expiration of 24 hours	12.50
When embarked on board a vessel in the bay for the performance of quarantine for 24 hours	5.00
When embarked on board tug steamers for a period not exceeding 3 hours	2.50
for a period not exceeding 6 hours	5.00
for a period over 6 hours up to 24 hours	7.50
For every bill of health or indorsement	5.00

QUARANTINE.

The superintendence of whatever relates to quarantines at the port of Gibraltar is with the captain of the port.

There also exists a board of health, who frame the quarantine regulations of the port from time to time as circumstances may require; this board consisting of the governor of Gibraltar, the colonial secretary, the principal medical officer of the garrison, the captain of the port, the police magistrate, the port surgeon, the chairman of the exchange committee and chamber of commerce, the chairman of the sanitary commissioners, the chairman of a chamber of commerce, and the chief clerk in the colonial secretary's office, who acts as the secretary of the board.

At every meeting of the board of health the presence of at least three members is necessary to form a quorum, one of whom has to be the principal medical officer of the garrison or the port medical officer.

Every question has to be decided by the votes of the majority of those present and voting on that question; and in case of an equality of votes, the chairman has a second or casting vote.

Vessels on arrival from an infected place or with sickness on board are immediately placed in quarantine, and each case is submitted to the board for its deliberation, decision, and final disposal.

Infested places mean and include any port or place where yellow fever, cholera, the plague, smallpox, or any epidemic diseases of a contagious or infectious character exists.

Vessels which may be entitled to free pratique and which have a case of sickness on board, are temporarily placed in quarantine, pending the port medical officer's visit, who goes off to the vessels in one of the port office steam-launches.

Should the party or seaman on board be suffering from smallpox, he is landed at the stone jetty wharf outside the gates of the fortress under strict sanitary precautions, and then taken to the smallpox hospital for treatment.

HORATIO I. SPRAGUE,
Consul.

UNITED STATES CONSULATE,
Gibraltar, August 6, 1889.

MALTA.

REPORT BY CONSUL WORTHINGTON.

PILOTAGE.

Pilotage is not compulsory for any vessel, and charges are the same for all, no special privileges being enjoyed by any country, including this.

If any vessel takes a pilot she must pay for it, whatever her condition or character.

Tariff of fares to be paid for pilot boats.

	£	s.	d.
(1) If engaged for the use of vessels of 100 tons or less	0	8	0
From 101 to 150	0	12	0
From 151 to 250	0	16	0
From 251 to 350	1	0	0
From 351 and upwards	1	5	0

(2) When the pilot boat shall be employed for vessels on their departure, the half of the above fares shall be paid.

(3) For the passing from one harbor to the other, two-thirds of the above fares shall be paid.

(4) Besides the above fares there shall be paid to the pilots employed on board of vessels in quarantine 1*s.* 8*d.* a day together with their food, or 2*s.* 8*d.* without their food.

LIGHTS AND LIGHT DUES.

No light dues are charged in Malta.

As to the "general character of the lights—altitude, distance visible, etc," they are thus described: Fort Tigué Point, two lights, fixed, 71 and 46 feet, visible 4 miles; St. Elmo Point—light, fixed, 167 feet, visible 15 miles; Ricasoli Point—two lights, fixed, 80 and 55 feet, visible 4 miles; Delimara Point, light revolving, red and white every thirty seconds, 151 feet, visible 15 miles; Giordau light-house (in Gozo), light revolving every minute, 400 feet, visible 24 miles.

There is no special rate of charges for American vessels. No discrimination exists in favor or against vessels of any country. In fact, there are no light dues of any description.

TONNAGE DUES.

Sailing vessels pay 6 cents per ton whenever they discharge cargo or part thereof in port; when they do not discharge cargo or when they arrive in ballast they are exempt from those dues. Steamers, whether discharging cargo or not, or even when they arrive in ballast, pay £1 up to 400 tons register, £2 up to 800 tons, and £3 over 800 tons. Vessels arriving with a Government cargo are exempted from those dues.

No discrimination obtains in regard to flag and no privileges exist in regard to nationality.

QUARANTINE.

Rules as to quarantine are published occasionally in the Malta Government Gazette, and vary with the conditions that call for them. All contagious diseases are quarantined.

Duration of quarantine depends upon violence of the contagious disease on board. No steady rule exists. The expenses of detention and fumigation are borne by the ships and passengers.

Quarantine rules are established by a board of health composed of Government officials, elected members of the council of government, presided over by the governor.

Vessels entered upon a quarantine pay, for each day of their continuance in port, as follows:

Vessels not exceeding 25 tons	$0.12
26 to 50 tons	.24
51 to 100 tons	.36
101 to 150 tons	.48
151 to 200 tons	.60
201 to 250 tons	.66
251 tons and upwards	.72

Any vessel in quarantine entering the grand harbor (not the quarantine harbor) without a justifiable cause, incurs the penalty of $200.

Cattle landed in the Lazzaretto is chargeable, for each horse, mule, or ass, 72 cents; bullock or other animal of the kind, 48 cents; sheep, goat, pig, or other small animal, 24 cents.

Persons performing quarantine in the Lazzaretto, pay at the rate of 30 cents a day for each guardian employed, but no single individual is chargeable with more than 30 cents a day.

Quarantine documents issued under the office seal, 60 cents each.

JOHN WORTHINGTON,
Consul.

UNITED STATES CONSULATE,
Malta, December 18, 1889.

POLYNESIA.

FIJI.

REPORT BY COMMERCIAL AGENT ST. JOHN.

PILOTAGE.

Pilotage is compulsory in all cases for vessels of this as well as foreign countries.

Coasting vessels here are required to pay a license and other fees, and are charged pilotage at a less rate than foreign vessels. Also vessels from New Zealand and the Australian colonies pay less pilotage than other foreign vessels. I will add that an American vessel coming here from either New Zealand or the Australian colonies would pay less than if she came from beyond those places. No foreign flag enjoys special privileges.

Vessels in distress and foreign men-of-war vessels do not pay pilotage.

LIGHTS AND LIGHT DUES.

Light dues are payable at more than one port in this country during the same voyage. These dues are not payable where there is not a light, but there being but two ports here in Fiji, and lights being kept at each port, is really equivalent to answering the question in the affirmative. As to the general character of the lights, they are the usual range lights, showing the passage through the reef into the harbor, a white light over a red light; also a green range light, showing only inside the harbor. The white light is at an altitude of 240 feet, and is visible 10 or 12 miles in ordinary weather. The red light is at an altitude of 193 feet and is visible 4 or 5 miles in ordinary weather. The green harbor light is to the south of the passage, at an altitude of 20 feet, and is visible only inside the harbor.

All foreign vessels from beyond New Zealand or the Australian colonies are charged 12 cents per registered ton. (See inclosure.) Light dues are collected through the custom-house from the shipmaster. There is no discrimination in favor of or against vessels of the United States.

This colony charges its own shipping engaged in foreign or coasting trade light-house dues, and these charges are the same as those charged vessels of the United States.

TONNAGE DUES.

Tonnage dues are collected from all classes of vessels, whether on foreign or coasting trade, laden or in ballast. Vessels in ballast pay one-half dues. There is no discrimination in regard to flag.

No vessels of any nationality enjoy special privileges.

QUARANTINE.

All contagious and infectious diseases are quarantined. Twenty-one days from leaving a port where a contagious, infectious, or in some cases an epidemic disease is known to exist is the maximum time for

quarantine. The ship bears the expense of her detention and fumigation; passengers bear their own expenses.

Quarantine rules are established by the general colonial government and approved by the Imperial Government, and the General Government can take charge of and supersede the former.

This being a crown colony, it is governed by a representative of the Crown of England, to which he is alone responsible and to whom he looks for his instructions.

ANDREWS A. ST. JOHN,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Levuka, September 17, 1889.

PILOTAGE, LIGHT, AND SHIPPING DUES IN FIJI.

[Inclosure in Commercial Agent St. John's report.]

SCHEDULE A.

Pilotage.

	£	s.	d.
Vessels of 60 tons register	1	0	0
Vessels exceeding 60 tons, per registered ton	0	0	4
Pilotage on any vessel not to exceed	10	0	0

For every vessel in ballast, if over 120 tons, one-half the above rates shall be charged. Pilotage shall be charged inward and outward.

Light and shipping dues.

Vessels from any port beyond the Australian colonies or New Zealand, per registered ton	0	0	6
Steam vessels, other than mail steamers, from ports beyond this colony, and sailing vessels from the Australian colonies or New Zealand, per registered ton	0	0	3
Unlicensed vessels coastwise, per ton	0	0	2

Exemptions from shipping dues.

Vessels under charter with the colonial government, vessels put back in distress, and vessels holding coasting license.

SCHEDULE B.

For removal in harbor of any vessel under 100 tons	0	10	0
Exceeding 150 tons	1	0	0

The above is taken by me from the list of dues and fees in the custom-house at Levuka.

GILBERT ISLANDS.

REPORT BY COMMERCIAL AGENT RICK.

PILOTAGE.

Pilotage is in no case compulsory. Vessels requiring the service of a pilot are charged $1 per foot draft. No distinction is made in favor of any nation, vessels in distress or vessels of war.

LIGHT DUES.

There are no light-houses in this group and no dues are charged.

TONNAGE DUES.

We have no custom-house here and no rates are charged whatsoever by the Government. There is no discrimination made in favor of any flag; all are treated alike.

Quarantine regulations do not exist.

A. RICK,
Commercial Agent.

UNITED STATES COMMERCIAL AGENCY,
Butaritari, October 1, 1889.

HAWAIAN ISLANDS.

REPORT BY CONSUL-GENERAL SEVERANCE, OF HONOLULU.

PILOTAGE.

Pilotage is compulsory from all vessels entering ports of the Hawaiian Islands with the exception of those in the coasting trade, and the charges are the same to all vessels.

No foreign flag enjoys special privileges. Vessels in distress pay pilotage. War vessels taking pilots pay for the pilotage to the pilot and not to custom-house.

LIGHTS AND LIGHT DUES.

Light dues are payable at only one port during the same voyage; not payable where there is no light.

Character of lights: Low altitude, distance visible about 15 miles. Rate charged, $3 each voyage, collected through custom-house. No discrimination in favor of vessels of the United States. The Hawaiian Government charges its shipping in foreign trade $3 each voyage, and those in the coasting trade 10 cents per ton per annum, these charges being the same as to vessels of the United States. Only vessels under the Hawaiian flag permitted to enter into the coasting trade.

TONNAGE DUES.

Tonnage dues are collected from all vessels, except those in the coasting trade, in the form of wharfage at the rate of 2 cents per ton per diem, Sundays and Government holidays excepted. There is no discrimination in regard to flag, and no special privileges enjoyed except by mail steamers.

QUARANTINE.

The board of health may establish quarantine at such times as may be deemed necessary for the public health and safety. Diseases quarantined are smallpox, yellow fever, scarlet fever, or any other contagious or infectious disease. The duration of quarantine is 18 days. Expenses incurred are paid by person, vessel or owners, assignees or possessors. Quarantine regulations are established by the board of health, under control of the General Government.

H. W. SEVERANCE,
Consul-General.

UNITED STATES CONSULATE-GENERAL,
Honolulu, October 23, 1889.

SUPPLEMENT.

INTERESTING SEA TABLES.

The following interesting tables and papers are from Pearson's Nautical Almanac,* transmitted by Consul Jasper Smith, of Newcastle-upon-Tyne.

1. Table for converting knots into miles. 2. Set of the tides along the south coast of England. 3. The tidal stream on the east coast of Scotland and England. 4. Oil on rough seas. 5. Finding the difference of longitude, etc. 6. Distances between the principal ports of the globe. 7. Mortar and rockets for life saving. 8. Weather indications. 9. Regulations for preventing collisions at sea. 10. Foreign port charges (European, outside the United Kingdom). 11. foreign light houses (European, outside the United Kingdom).

1. TABLE FOR CONVERTING KNOTS INTO MILES.

[The admiralty knot = 6,080 feet; 1 statute mile = 5,280 feet.]

Knots.	Miles.	Knots.	Miles.	Knots.	Miles.	Knots.	Miles.	Knots.	Miles.	Knots.	Miles.
1.00	1.151	5.00	5.757	9.00	10.363	13.00	14.969	17.00	19.575	21.00	24.181
1.25	1.439	5.25	6.045	9.25	10.651	13.25	15.257	17.25	19.863	21.25	24.468
1.50	1.729	5.50	6.333	9.50	10.939	13.50	15.545	17.50	20.151	21.50	24.757
1.75	2.015	5.75	6.621	9.75	11.227	13.75	15.833	17.75	20.439	21.75	25.045
2.00	2.303	6.00	6.909	10.00	11.515	14.00	16.121	18.00	20.727	22.00	25.333
1.25	2.590	6.25	7.196	10.25	11.803	14.25	16.409	18.25	21.015	22.25	25.621
2.50	2.878	6.50	7.484	10.50	12.090	14.50	16.696	18.50	21.303	22.50	25.909
2.75	3.166	6.75	7.772	10.75	12.378	14.75	16.984	18.75	21.590	22.75	26.196
3.00	3.454	7.00	8.060	11.00	12.666	15.00	17.272	19.00	21.878	23.00	26.484
3.25	3.742	7.25	8.348	11.25	12.954	15.25	17.560	19.25	22.166	23.50	27.000
3.50	4.030	7.50	8.636	11.50	13.242	15.50	17.848	19.50	22.454	24.00	27.636
3.75	4.318	7.75	8.924	11.75	13.530	15.75	18.136	19.75	22.742	24.50	28.212
4.00	4.606	8.00	9.212	12.00	13.818	16.00	18.424	20.00	23.030	25.00	28.787
4.25	4.893	8.25	9.500	12.25	14.106	16.25	18.712	20.25	23.318	.....	.....
4.50	5.181	8.50	9.787	12.50	14.393	16.50	18.999	20.50	23.606	.....	.....
4.75	5.469	8.75	10.075	12.75	14.681	16.75	19.287	20.75	23.893	.....	.....

2. SET OF THE TIDES ALONG SOUTH COAST OF ENGLAND.

The tides about Plymouth are tolerably regular, flood and ebb, generally running each way about 6 hours and 10 minutes at a mean. In Hamoaze the flood stream continues to run up, on spring tides, about 15 minutes after high water at Devonport dockyard.

It is high water in Catwater earlier than at the dockyard; but with strong winds from the south and west the tides flow half an hour longer in both harbors.

At the breakwater it is high water a few minutes earlier than at the dockyard, but the stream drains in for a short time after the water has ceased to rise.

Abreast of Plymouth, about 6 miles from the land, the streams are very irregular,

* G. Pearson's Nautical Almanac and Tide Tables; G. Pearson, Nautical Bookseller, 24 High street, Hartlepool, England.

and do not turn with the tide further out in the offing. One hour and three quarters before high water at the dockyard the stream makes to the east and runs about E. by S. for 1 hour; during the next hour it is scarcely sensible, after which it turns to the south, gradually changing to WSW. till the last quarter of the ebb on the shore, when it veers from WSW. to WNW. During the first 3 hours' flood on the shore its direction changes from WNW. to NW., when it begins to slacken and set about north, till at the last 4¼ hours' flood it runs E. by S., as at first.

Four miles southwest of the Eddystone the stream begins to run E. by S., when it is high water at the dockyard, and continues about 2¾ hours, when it slackens and shifts to the south. At 3¼ hours' ebb on the shore it sets WSW.; at 4 hours W. by N., and then WNW. until low water. During the first 2 hours' flood on the shore the stream sets NW. by W., and loses its strength during the third hour running NW. and N. During the fourth hour what little stream there is sets NNE. and NE., and ENE. and E. by N., till about high water, when its direction is E. by S.

From Bolt Tail to Start Point, at 4 miles offshore, the east stream makes at 3 hours after high water, and the west stream 3 hours after low water, on the shore; the stream sets along the land, and its greatest velocity is 2¾ knots. At neaps the turn of the stream is irregular, varying from 4 to 7 hours after high and low water on the shore, the average being 5 hours. Its rate at neap is 1½ knots; off the Start 2½ knots.

Off Exmouth Bar, at three-fourths of a mile south of Straight Point, at full and change, the stream turns to the east at $3^h\ 40^m$, and to the west at $11^h\ 0^m$, running in the latter direction about 4¾ hours. The direction of the west stream for the first 2 hours is WSW.; for the next 2 hours west, and then turns gradually to the north. The direction of the east stream for the first quarter is ENE.; at half-tide, E. by N.; and the greatest velocity of both streams is about 1 knot.

Three miles south of Beer Head the stream turns to the west at $10^h\ 30^m$, and runs 4 hours, then gradually turns to the north and runs for 2 hours between WNW. and NE. by N. It may be said to turn to the east about 5 o'clock, and for 2½ hours, or until half-tide, sets from NE. to E. by N., and for the next 3 hours gradually turns to the south. The direction of the tide in this position is, therefore, round the compass, with little or no velocity, as even at springs it scarcely runs a knot, and that only for a very short period.

In West Bay, at 2 miles NNW. of the Bill of Portland, at full and change, the tide begins to turn at $6^h\ 35^m$, and sets as follows: First hour of the ebb by the shore at breakwater, S. ¼ E., 1¼ knots; second hour, S. ¼ W., 1¾ knots; third hour, S. by W. ¼ W., 1½ knots; fourth hour, SW. by S., ¾ of a knot; fifth hour, NW. ¾ N., nil; sixth hour, from NNW. to N. ¼ W., three-quarters of a knot; seventh hour, NNE. to E. by N., 1 knot; eighth hour, SE. ¼ E., 1¼ knots. First hour of the flood, SE. by S., 1½ knots; second, third, fourth, and fifth hours, SSE., 2 knots.

At 2½ miles SE. ¼ S. of the Bill of Portland, near west end of the Shambles, the first hour of the flood by the shore sets west at the rate of 1¼ to half a knot; second hour, E. ¼ N., half a knot; third hour, E. by N., 2¾ knots; fourth hour, ENE. ¾ E., 3¾ knots; fifth hour, east, 3¾ knots. At the first hour of the ebb, E. by S., 3½ knots; second hour, E. by S. to SE. by S., 2½ to 1½ knots; third hour, S., 1 knot; fourth hour, SW. by S., 1½ knots; fifth hour, WSW. ¼ W. 1½ knots; sixth hour, W. by S., 2 knots; seventh hour, W. by S., 2½ knots; eighth hour, WSW. ¾ W., 1¾ knots. [N. B.—A mile south of the Bill, at half flood by the shore, the tide sets from SSE. to SE. ¼ E., and opposite stream about WSW. ¼ W.; the velocity of both streams, at springs, is from 5 to 6 knots; but although the tides run with such violence near the Race, about a mile SW. of the Bill the tide was found very weak.]

At 5 miles ESE. of Bill of Portland, east end of the Shambles, the first hour of the flood by the shore sets W. 4½ knots; second hour, from W. to N. by E., very weak; third hour, about ENE., very weak; fourth hour, E. by N., 2 knots; fifth hour, E. by N., 2¾ knots. The first hour of the ebb sets ENE., 3½ knots; second hour, ENE., 3¾ knots; third hour, E., 2¾ knots; fourth hour, E., and E. by N., 1¼ knots; fifth hour, E., N. by W. by W., and W. by N., very weak; sixth, seventh, and eighth hours, about W., from 2¾ to 2½ knots.

In Portland and Weymouth roads there is very little tide, so that the stream is scarcely sensible, and continues to be very moderate along the shore from Weymouth to St. Albans Head.

SSW. ¼ W. 1½ miles from St. Albans Head the western stream, at full and change, makes at $10^h\ 45^m$ and the eastern stream at $4^h\ 45^m$; the flood and ebb are of equal duration, the former setting southeast, the latter from WNW. to NW. by W., their greatest velocity, being at half-tide from 4½ to 4¾ knots.

At 1 mile southeast of Durlstone Head, at full and change, the west stream makes at $10^h\ 25^m$, and the east stream at $4^h\ 25^m$, the former setting WSW. and the latter ENE., their greatest velocity being about 3 knots; the indraft of the flood stream in thick weather might prove fatal to a ship not on her guard.

At a third of a mile ESE. off Peverel Point, at full and change, the western stream makes at $8^h\ 40^m$ and the eastern stream at $4^h\ 0^m$, the former setting southwest and

the latter northeast; on the ebb there is a dangerous race over the ledge, which extends about a mile off the point. The velocity of the ebb stream is about 3 knots and that of the flood about 1½ knots. Off Old Harry, at three-fourths of a mile NE. by E. of Standfast Point, at full and change, the west stream makes at 9h 45m and the flood or east stream at 4h 10m, the flood setting from NE. by E. to N. by E. at the rate of 1 knot, and the ebb from S. by W. to SW., 2 knots.

At the Needles at full and change the west stream makes at 10h 0m and the flood or east stream at 3h 40m, and the velocity of both streams over the bridge and in the south channel is from 3 to 4 knots; but between Hurst Point and the island, 5½ knots, and to the southward of the bridge about 2 knots. In the Solent the eastern or flood stream makes at 4h, and near the Bramble 4h 30m.

In Freshwater Bay, about 1 mile southwest of Brook Point, and the same distance off Atherfield Point, at full and change, the west stream makes at 10h 25m and runs at the rate of 1 knot, and the flood or east stream at 2h 35m from 2 to 2½ knots; both streams take the direction of the coast. W. by S. 4½ miles from St. Catherine Point the west stream makes at 11h, setting NW. ½ W., and the flood or east stream at 5h, in the opposite direction, SE ½ E., the rate of both being from 2 to 4 knots; but at 1 mile W. by S. from the point the streams set NW. by N. and SE. by S. 3 to 4 knots, and ½ of a mile SSW. of the point W. by N. and E. by S., with the same velocity.

Nearly 5 miles SSE. of Dunnose, at full and change, the stream turns at 10h 40m and 4h 30m, and sets E. ½ S. and W. by N. from 4 to 5 knots; but southeast 2 miles from Dunnose the flood sets E. by N., and turns at the same time as in Portsmouth Harbor, and the ebb W. by S., but 1 hour earlier than it does in the harbor.

Princessa: At the northwest buoy, at full and change, the west stream makes at 10 o'clock, and runs 6 hours WSW. ½ W. The east stream commences at 4 o'clock and sets very nearly in the opposite direction, ENE. At the southeast buoy the tides are about half an hour later; the west stream first part W. ½ S., gradually becomes more south; the last of the tide runs SW. by S. The course of the east stream is nearly the same the whole of the tide, E. by N.

At the Nab Light vessel the tidal stream is nearly rotary, which is caused by the Spithead tide meeting the tide round Dunnose near the light vessel; at the first hour's flood by the shore it sets E.; second and third hours, ENE.; fourth, NE.; fifth, NE. by N.; sixth, N.; seventh, NNW. to NW.; and the last drain of the flood, NW. by W. The first hour's ebb sets W. by N.; second, W. by S. to WSW.; third, SW. by W. to SW.; fourth, SW. ½ S.; the first part of the fifth hour, SSW., gradually to the south until low water by the shore, when it sets SE. There are only a few minutes slack. At full and change the east stream makes at 8h 30m, and the west stream at 12h 15m.

At the Warner, at full and change, the east stream makes at 2 o'clock and runs 7½ hours about SSE., and the west stream at 9h 30m and runs nearly 4½ hours NNW.

Near the Horse Elbow the tide must be strictly attended to, for in many cases it sets directly over that shoal. The east stream makes at 2 o'clock, 2½ hours after the tide on the shore, and runs to the southeast 7½ hours; the west stream makes at 9h 15m, 4½ hours after low water on the shore, and runs nearly 5 hours to the northwest.

At the Dean Elbow, at full and change, the east stream, which sets over that shoal, makes at 2 o'clock, runs to the southeast for 2 hours, and then sets east for the remainder of the tide, 5½ hours the west stream makes at 9h 45m; and runs WNW. 4½ hours.

At Spithead, at full and change, the east stream makes about 2 o'clock, 2½ hours after high water in the harbor, and runs 7 hours SE. by S.; and the west stream about 9 o'clock, 2½ hours before high water in the harbor, and runs 5 hours NW. by N.

In Portsmouth Harbor the flowing continues about 7 hours, and a narrow stream runs in 15 or 20 minutes after high water at the dockyard. From the result of 3 years' observations at the dockyard it appears that at high water, slackwater at springs continue for 8 minutes, and at neaps 16 minutes.

Looe Stream: At the western entrance near the Pullar Buoy, at full and change, the eastern stream makes at 3h 45m, and the western stream at 10 hours, and SE. and NW. Between 2 and 3 miles outside the Boulder Bank the stream turns about an hour later, the eastern stream setting ESE. and the western stream west. Between Pullar Bank and the Middle Owers, the eastern stream sets ESE. and the western stream west. At the eastern entrance, near Eastborough Head, the eastern stream makes at 4h 30m, and sets ENE. ½ E., and the western stream at 9h 50m W. Off the west end of Hooe Bank the eastern stream makes at 4h 35m and sets ESE., and the western stream at 10h 30m W. ½ N.

About 1 mile SSE. of the South Foreland light-house, the stream being to set to the eastward about 1h 30m before high water on the shore at Dover, and runs from NE. by E. to ENE. about 5½ hours, or till 4 hours after high water; it then turns and sets WSW. ½ W. about 7 hours. At Dover the flowing stream very seldom continues more than 5 hours, and sometimes scarcely so much.

3. THE TIDAL STREAM ON THE EAST COAST OF SCOTLAND AND ENGLAND.

In the North Sea the flood-tide wave enters from the Atlantic Ocean between the coast of Norway and the British Isles, and passes through the various channels formed by the Shetlands, Orkneys, and the north of Scotland. The average rate of the stream in the offing is very moderate, not exceeding 1½ knots; but the stream which enters the Pentland Firth acquires a furious rapidity, at spring tides even to 8 knots. From the Firth it immediately abates in strength as it diverges into open water, its eastern branch filling up the basin of the North Sea as it advances towards the coast of Jutland and Holland, while its western branch, more or less confined by the Dogger and other banks, rolls along the shores of Scotland and England, and makes high water in all their rivers successively till it arrives in the Thames.

The following remarks will assist the seaman in tracing the movement of the tide stream along the coast:

Off Clythness and Ord Head its rate is about 3 knots with springs and 1½ with neaps, and continues to run south till 11 o'clock, or till 3h 40m before high water at Leith. Off Covesea Point, Burgh Head, and thence westward toward Fort George and Cromarty it runs about an hour longer.

Off Cullen the flood stream sets slowly eastward, increasing as it advances; off Troup Head it runs till 1 o'clock, or till 1h 20m before high water at Leith; off Kinnaird Head its rate is 2 knots on springs and is increased as it passes Rattray Brigs till off Peterhead, occasioned by the junction of the stream from Duncansby Head. Six miles off Kinnaird Head the stream runs south till 2, and at 12 miles till 3 o'clock, or 40 minutes after high water at Leith.

Off Buchanness the stream attains its greatest strength, namely, 4 knots on the springs and 2½ on the neaps; but off Newburgh it decreases to less than 2 knots, and ceases at 2 o'clock; and at 4 or 5 leagues in the offing it runs till 3 o'clock, or 40 minutes after high water at Leith.

The stream runs past Girdleness till 2h 30m, or 10 minutes after high water at Leith, springs at the rate of 2½ and neaps 1½ knots. It runs past Montrose Harbor and Red Head till 3 o'clock, or 40 minutes after high water at Leith. From Red Head it sets into St. Andrew's Bay till the last quarter, which sets S. and SSE.; but to the westward of Red Head it sets WSW. past Arbroath and Tay Bar.

At 2 miles off the Bell Rock light the flood continues running to the south till 3 hours after high water at Leith; but between the Bell Rock and Fifeness it changes 2 hours earlier. The first part of the latter stream sets towards May Island, the middle to the south, and the last part SSE. The first part of the ebb sets from ENE. to NE., the middle NNE., and the last more northerly.

A mile off St. Abb's Head the flood stream runs to the southeast till 3h after high water at Leith; but at 5½ or 6 leagues off it continues a quarter of an hour later. About 3 miles off Berwick it runs till 4h 10m after high water at Leith.

At 5 miles off North Sunderland, and the same distance southeast of the Staples, the flood stream runs 3h 25m after high water at Leith.

About 2 miles off Blyth Harbor, and 4 miles off Tynemouth, it runs to the southward till 3h 40m after high water at Leith, and at 4 miles off Sunderland a quarter of an hour later.

At 3 or 4 miles off Hartlepool, and same off Whitby, the flood runs to the south to 4h 10m after high water at Leith; same distance off Flamborough Head it runs half an hour longer.

Near the Norfolk and Suffolk coasts the streams of tide run nearly parallel to the shore. Off Wells the flood runs to the eastward till 9 o'clock, or 3 hours after high water on the shore.

Four miles off Cromar, the same off Hasborough, the flood stream runs along shore to the southward till 10h 15m, or 1h 45m before high water at Harwich, and the ebb in a contrary direction.

At 2½ miles off Lowestoft the stream runs to the SSW. till 1h 30m before high water at Harwich.

At Orfordness the flood runs till high water in Harwich; the flood sets WSW. and the ebb ENE.

At Margate it is high water 11h 40m by the ground. Near the east buoy of Margate Sand, at the first of the flood, inshore the stream sets S. by W., veering westward, till about half flood, or 9h 15m, it sets west, and continues veering till high water it falls slack at NNW. The ebb stream begins at NE., veering eastward and increasing till about half ebb, or 2h 45m, when it sets SE. by E., still veering, and the latter part with diminished velocity, till low water it falls slack at south.

River Medway: The flood stream runs up mid-channel from 20 to 25 minutes after high water at Sheerness; but at the Nore the flood stream runs up the Thames half an hour after high water at Sheerness.

It must be noticed that the direction of strong winds, as well as the varying pressure of the atmosphere, considerably affect both the times and heights of high water. Thus in the North Sea a strong north-northwest gale and a low barometer raise the surface 2 or 3 feet higher and cause the tide to flow along the coast from Pentland Firth to London half an hour longer than the times and heights in the tables. East, southeast, and southwest winds produce opposite effects, which will be felt as far down the channel as Dungeness. On the contrary, at the entrance of the channel at Plymouth, and as far up as Portland, southwest winds with a low barometer, raise the surface of the water; and northeast winds and a high barometer lower it.

The winds also affect the locality of the meeting of the North Sea and channel tides. During moderate breezes this takes place between the North Foreland and the north end of the Goodwin Sands to the southward, and between the Kentish Knock and the Galloper to the northword; but both these places of meeting are liable to be removed farther south or north by strong north or southwest winds.

4. OIL ON ROUGH SEAS.

The board of trade desire to call attention to the following memorandum, which has recently been issued by the admiralty, on the use of oil at sea for modifying the effect of breaking waves:

(1) On free waves—*i. e.*, waves in deep water—the effect is greatest.

(2) In a surf, or waves breaking on a bar, where a mass of liquid is in actual motion in shallow water, the effect of the oil is uncertain, as nothing can prevent the larger waves from breaking under such circumstances; but even here it is of some service.

(3) The heaviest and thickest oils are most effectual. Refined kerosene is of little use; crude petroleum is serviceable when nothing else is obtainable, but all animal and vegetable oil, such as waste oil from the engines, have great effect.

(4) A small quantity of oil suffices if applied in such a manner as to spread to windward.

(5) It is useful in a ship or boat, both when running or lying-to or in wearing.

(6) No experiences are related of its use when hoisting a boat up in a seaway at sea, but it is highly probable that much time and injury to the boat would be saved by its application on such occasions.

(7) In cold water the oil, being thickened by the lower temperature and not being able to spread freely, will have its effect much reduced. This will vary with the description of oil used.

(8) The best method of application in a ship at sea appears to be, hanging over the side, in such a manner as to be in the water, small canvas bags capable of holding from one to two gallons of oil, such bags being pricked with a sail needle to facilitate leakage of the oil.

The position of these bags should vary with the circumstances. Running before the wind they should be hung on either bow— *e. g.*, from the cathead—and allowed to tow in the water.

With the wind on the quarter the effect seems to be less than in any other position, as the oil goes astern, while the waves come up on the quarter.

Lying-to, the weather bow and another position farther aft seems the best places from which to hang the bags, with a sufficient length of line to permit them to draw to windward while the ship drifts.

(9) Crossing a bar with a flood tide, poured overboard and allowed to float in ahead of the boat, which would follow with a bag towing astern, would appear to be the best plan. As before remarked, under these circumstances the effect can not be so much trusted.

On a bar with the ebb tide it would seem to be useless to try oil for the purpose of entering.

(10) For boarding a wreck, it is recommenned to pour oil overboard to windward of her before going alongside. The effect in this case must greatly depend upon the set of the current and the circumstances of the depth of water.

(11) For a boat riding in bad weather from a sea anchor, it is recommended to fasten the bag to an endless line rove through a block on the sea anchor, by which means the oil is diffused well ahead of the boat, and the bag can be readily hauled on board for refilling if necessary.

FISHING BOATS.

Signal.—Skippers of British fishing vessels in the North Sea requiring aid of one of Her Majesty's cruisers employed in protecting the North Sea fisheries should fire a rocket throwing one *white* star. This signal should only be used, however, when urgent assistance is needed.

5. TABLES TO FACILITATE THE OPERATION OF FINDING THE DIFFERENCE OF LONGITUDE FROM THE DEPARTURE BY MIDDLE LATITUDE SAILING.

In this table the departure is assumed to be 1 mile, and the corresponding difference of longitude is given for every degree and every 10′ of a degree from the equator to 80° of north or south latitude. In north latitude, sailing between the north and the west, or the north and the east, add half the difference of latitude to the latitude left, and it will give the mean middle latitude; but sailing between the south and the west or the south and the east, in north latitude, subtract half the difference of latitude from the latitude left, and the remainder will be the mean middle latitude. The same rule is to be observed in south latitude; or half the sum of the two latitudes when they are both of the same name, or half their difference when they are of contrary names, is the middle latitude. The numbers in this table are given in minutes of a degree and decimal parts of a minute; therefore the number corresponding to any given middle latitude multiplied by the departure in nautical miles will give the difference of longitude in minutes and decimal parts of a minute.

TABLE I.

Mean mid. lat.	0′	10′	20′	30′	40′	50′	Mean mid. lat.	0′	10′	20′	30′	40′	50′
°	°	′	′	′	′	′	°	°	′	′	′	′	′
1	1.0002	1.0002	1.0003	1.0003	1.0004	1.0005	44	1.3902	1.3941	1.3980	1.4020	1.4060	1.4101
5	1.0038	1.0041	1.0043	1.0046	1.0049	1.0052	45	1.4142	1.4183	1.4225	1.4267	1.4310	1.4352
8	1.0098	1.0103	1.0107	1.0111	1.0115	1.0120	46	1.4396	1.4439	1.4483	1.4527	1.4572	1.4627
10	1.0154	1.0160	1.0165	1.0170	1.0176	1.0181	47	1.4663	1.4709	1.4755	1.4802	1.4849	1.4897
11	1.0187	1.0193	1.0199	1.0205	1.0211	1.0217	48	1.4945	1.4993	1.5042	1.5092	1.5141	1.5192
12	1.0223	1.0230	1.0236	1.0243	1.0249	1.0256	49	1.5243	1.5294	1.5345	1.5398	1.5450	1.5504
13	1.0263	1.0270	1.0277	1.0284	1.0291	1.0298	50	1.5557	1.5611	1.5666	1.5721	1.5777	1.5833
14	1.0306	1.0314	1.0322	1.0330	1.0338	1.0345	51	1.5890	1.5947	1.6005	1.6064	1.6123	1.6183
15	1.0353	1.0361	1.0369	1.0378	1.0386	1.0394	52	1.6243	1.6303	1.6365	1.6427	1.6489	1.6553
16	1.0403	1.0412	1.0421	1.0430	1.0439	1.0447	53	1.6616	1.6681	1.6746	1.6812	1.6878	1.6946
17	1.0456	1.0465	1.0475	1.0484	1.0494	1.0504	54	1.7013	1.7082	1.7150	1.7221	1.7291	1.7362
18	1.0514	1.0524	1.0534	1.0545	1.0555	1.0565	55	1.7434	1.7507	1.7581	1.7655	1.7730	1.7806
19	1.0576	1.0587	1.0598	1.0609	1.0620	1.0631	56	1.7883	1.7960	1.8039	1.8118	1.8198	1.8279
20	1.0642	1.0653	1.0664	1.0676	1.0688	1.0699	57	1.8361	1.8443	1.8527	1.8611	1.8697	1.8783
21	1.0711	1.0723	1.0735	1.0748	1.0760	1.0772	58	1.8871	1.8959	1.9049	1.9139	1.9230	1.9323
22	1.0785	1.0798	1.0811	1.0823	1.0836	1.0850	59	1.9416	1.9510	1.9606	1.9703	1.9801	1.9900
23	1.0863	1.0877	1.0890	1.0904	1.0918	1.0932	60	2.0000	2.0101	2.0204	2.0307	2.0413	2.0519
24	1.0946	1.0960	1.0974	1.0989	1.1003	1.1018	61	2.0626	2.0736	2.0846	2.0957	2.1071	2.1185
25	1.1033	1.1048	1.1063	1.1079	1.1094	1.1110	62	2.1300	2.1417	2.1536	2.1657	2.1779	2.1902
26	1.1126	1.1142	1.1158	1.1174	1.1190	1.1206	63	2.2026	2.2153	2.2281	2.2412	2.2543	2.2677
27	1.1223	1.1240	1.1257	1.1274	1.1291	1.1308	64	2.2811	2.2949	2.3088	2.3228	2.3371	2.3515
28	1.1326	1.1344	1.1361	1.1379	1.1397	1.1415	65	2.3662	2.3810	2.3961	2.4114	2.4269	2.4426
29	1.1433	1.1451	1.1470	1.1489	1.1508	1.1527	66	2.4586	2.4748	2.4912	2.5079	2.5248	2.5419
30	1.1546	1.1565	1.1585	1.1605	1.1625	1.1645	67	2.5593	2.5770	2.5949	2.6131	2.6317	2.6504
31	1.1665	1.1686	1.1707	1.1728	1.1749	1.1770	68	2.6694	2.6888	2.7085	2.7285	2.7488	2.7696
32	1.1792	1.1813	1.1835	1.1857	1.1879	1.1901	69	2.7905	2.8117	2.8334	2.8554	2.8778	2.9006
33	1.1923	1.1946	1.1969	1.1992	1.2015	1.2038	70	2.9238	2.9474	2.9713	2.9958	3.0206	3.0458
34	1.2062	1.2086	1.2110	1.2134	1.2159	1.2183	71	3.0715	3.0977	3.1244	3.1515	3.1791	3.2074
35	1.2208	1.2233	1.2258	1.2283	1.2309	1.2334	72	3.2361	3.2653	3.2951	3.3255	3.3565	3.3881
36	1.2360	1.2386	1.2413	1.2440	1.2466	1.2493	73	3.4203	3.4531	3.4867	3.5209	3.5559	3.5915
37	1.2521	1.2548	1.2576	1.2605	1.2633	1.2662	74	3.6279	3.6652	3.7032	3.7420	3.7816	3.8222
38	1.2690	1.2718	1.2748	1.2777	1.2806	1.2836	75	3.8638	3.9062	3.9495	3.9939	4.0394	4.0859
39	1.2866	1.2896	1.2927	1.2957	1.2988	1.3020	76	4.1335	4.1824	4.2324	4.2836	4.3362	4.3902
40	1.3053	1.3085	1.3118	1.3150	1.3183	1.3216	77	4.4454	4.5021	4.5605	4.6203	4.6817	4.7448
41	1.3250	1.3284	1.3318	1.3352	1.3386	1.3421	78	4.8097	4.8765	4.9451	5.0158	5.0886	5.1636
42	1.3456	1.3491	1.3527	1.3563	1.3599	1.3636	79	5.2409	5.3206	5.4027	5.4875	5.5750	5.6653
43	1.3673	1.3710	1.3748	1.3786	1.3824	1.3863	80	5.7587	5.8554	5.9554	6.0589	6.1661	6.2773

6. NAVIGABLE DISTANCES IN NAUTICAL MILES BETWEEN SOME OF THE PRINCIPAL PORTS OF THE GLOBE.

ENGLAND TO PORTS IN INDIA, CHINA, AND AUSTRALIA.

From—	To—	By Cape of Good Hope.			By Suez Canal.
		Steam.	Sail.	Sail. NE. Monsoon.	
		Miles.	*Miles.*	*Miles.*	*Miles.*
Plymouth	Bombay	10, 417	11, 727	14, 290	6, 000
	Galle	10, 160	11, 470	12, 200	6, 499
	Madras	10, 680	11, 990	14, 200	7, 020
	Calcutta	11, 300	12, 610	14, 200	7, 639
	Singapore	12, 490	13, 160	.....	8, 020
	Hong-Kong	12, 930	14, 600	15, 140	9, 450
	Shanghai	13, 730	15, 400	16, 140	10, 249
	Yokohama	14, 490	16, 160	.....	11, 010
	Melbourne	11, 890	13, 200	.....	11, 039
	Sydney	12, 440	13, 750	.....	11, 590
	Wellington	13, 360	14, 670	.....	12, 510

ENGLAND TO PORTS IN THE PACIFIC AND BACK.

From—	To—	By Cape Horn and Valparaiso.	
		Steam.	Sail.
		Miles.	*Miles.*
Plymouth	Valparaiso	8, 600	9, 120
	San Francisco	13, 600	15, 360
	Vancouver	14, 400	16, 110
	Honolulu	14, 660	15, 180
Valparaiso	Plymouth	.....	9, 800
San Francisco	....do	*14, 520	15, 900
Vancouver	....do	*15, 220	16, 600
Honolulu	....do	*15, 100	17, 100

* By sail direct.

AUSTRALIA TO ENGLAND BY CAPE HORN.

From—	To—	Steam.	Sail.
		Miles.	*Miles.*
Melbourne	Plymouth	13, 060	13, 940
Sydney	....do	12, 870	13, 750
Wellington	....do	11, 670	12, 550

ATLANTIC.

Plymouth	St. John's, Newfoundland	1, 905	.....
	Halifax	2, 434	.....
	Halifax, Northern Passage	.....	2, 400
	Halifax, Southern Passage	.....	4, 200
	Bermuda	2, 918	*3, 780
	St. Thomas	3, 505	3, 700
	Colon	4, 535	4, 740
	Demerara	.....	4, 080
	Maranham	.....	3, 980
	Lisbon	755	.....
	Madeira	1, 210	1, 210
	Gibraltar	1, 050	1, 050
	Fayal	1, 276	1, 276
	Teneriffe	1, 415	1, 415
	St. Vincent	2, 257	2, 257
	Sierra Leone	2, 700	2, 700
	Ascension	3, 700	4, 200
	Cape of Good Hope	5, 890	7, 200
	Rio de Janeiro	4, 945	4, 945
	Montevideo	5, 965	5, 965
	Cape Horn	7, 120	7, 120

6. NAVIGABLE DISTANCES IN NAUTICAL MILES BETWEEN SOME OF THE PRINCIPAL PORTS OF THE GLOBE—Continued.

ATLANTIC—Continued.

From—	To—	Steam.	Sail.
		Miles.	*Miles.*
Gibraltar	Madeira	600	600
	Bermuda	2,880	3,240
	Halifax	2,670	3,840
	St. Vincent	1,560	1,560
Halifax	Plymouth	2,434	2,434
	St. John's, Newfoundland	520	.....
	New York	580	580
	Gibraltar	2,670	2,670
	Bermuda	750	750
	Quebec	850	.....
	Quebec, by Gut of Canso	760	.....
Bermuda	Plymouth	2,918	2,918
	Jamaica	1,140	.....
	St. Thomas	850	850
	Demerara	1,590	1,590
	Havana	1,140	1,140
	Cape of Good Hope	6,140	.....
	New York	690	690
	Gibraltar	2,880	2,880
New York	Havana	1,260	1,260
Havana	New Orleans	590	590
	Vera Cruz	840	840
Jamaica	Colon	580	580
St. Thomas	Colon	1,030	.....
	Santa Marta	690	.....
	Cartagena	795	.....
Sierra Leone	Cape Coast Castle	900	900
	Plymouth	2,700	4,290
	Ascension	1,000	1,500
Cape Coast Castle	Fernando Po	600	600
	Plymouth	3,600	5,700
Fernando Po	Sierra Leone	1,500	1,800
	St. Helena	.....	1,980
Ascension	Plymouth	3,907	4,760
	Sierra Leone	1,000	1,000
	Rio de Janeiro	1,890	1,890
	St. Helena	680	2,480
	Cape of Good Hope	2,380	3,420
St. Helena	Cape of Good Hope	1,700	2,700
	Plymouth	4,587	5,440
	Rio de Janeiro	2,140	2,140
Rio de Janeiro	Plymouth	4,945	5,600
	Plymouth, November to February	.....	6,300
	Ascension	1,890	2,760
	St. Helena	2,140	2,760
	Bahia	.....	710
	Pernambuco	.....	1,080
	Montevideo	.....	1,020
	Faulkland Islands	1,920	1,920
	Cape Horn	2,300	2,300
	Valparaiso	*3,680	4,180
	Cape of Good Hope	3,270	3,270
Montevideo	Plymouth	5,965	6,620
	Plymouth, October to April	.....	7,020
	Cape of Good Hope	3,600	3,600
	Falkland Islands	980	980
Cape of Good Hope	Plymouth	5,890	7,140
	Bermuda	6,140	6,140
	St. Helena	1,700	1,700
	Rio de Janeiro	3,600	3,600
	Algoa Bay	390	.....
	Natal	740	.....
Cape Horn	Plymouth	7,120	8,000
	St. Helena	.....	3,720
Cape Virgins	Cape Pillar	325	.....

MEDITERRANEAN.

Plymouth	Gibraltar	1,050	.....
Gibraltar	Malta	980	.....
	Marseilles	690	.....
	Algiers	408	.....
Marseilles	Malta	633	.....
	Port Said	1,610	.....

*Via Magellan Straits.

6. NAVIGABLE DISTANCES BY NAUTICAL MILES BETWEEN SOME OF THE PRINCIPAL PORTS OF THE GLOBE—Continued.

MEDITERRANEAN—Continued.

From—	To—	Steam.	Sail.
		Miles.	*Miles.*
Malta	Port Said	940	.....
	Alexandria	820	.....
	Spezzia	564	.....
	Venice	755	.....
	Athens	535	.....
	Bashika Bay	690	.....
	Constantinople	835	.....
	Corfu	335	.....
	Naples	333	.....
Constantinople	Odessa	340	.....
	Sebastopol	295	.....
Alexandria	Port Said	140	.....
Brindisi	....do	930	.....
	Malta	360	.....
Toulon	....do	620	.....
	Algiers	405	.....
Trieste	Port Said	1,287	.....
Naples	....do	1,130	.....
Athens	....do	585	.....
Odessa	....do	1,233	.....
Jaffa	....do	131	.....
Beirout	....do	225	.....

INDIAN OCEAN.

Port Said	Suez	87	.....
Suez	Aden	1,308	.....
Aden	Bombay	1,637	*1,637
Bombay	Aden	*2,180	*3,975
Aden	Point de Galle	2,134	*2,134
Point de Galle	Aden	*2,480	*3,255
Bombay	Point de Galle	960	.....
Calcutta	Aden	*3,400	*4,395
	Bombay	*2,100	*5,000
Aden	Seychelles	1,040	*3,130
	Zanzibar	1,720	†1,720
	Mauritius	*2,830	*3,610
	Batavia	.....	*3,960
	....do	.....	†4,090
Batavia	Aden	.....	*4,090
	....do	.....	†3,960
Seychelles	Zanzibar	990	990
	Mauritius	930	.....
	Bombay	1,770	*1,770
Zanzibar	Cape of Good Hope	2,460	.....
	Bombay	2,520	*2,520
Bombay	Cape of Good Hope	4,527	†4,527
	....do	.....	*5,820
Mauritius	Point de Galle	2,100	*2,100
	Cape of Good Hope	2,340	2,340
Natal	Mauritius	.....	2,400
	Cape of Good Hope	750	.....
	Algoa Bay	360	.....

INDIAN OCEAN, CHINA SEA, AUSTRALIA.

Point de Galle	Madras	520	.....
	Calcutta	1,140	†1,140
	Singapore	1,510	3,065
	Perth, West Australia	3,065	.....
	Cape Leeuwin	3,130	.....
	Melbourne	4,570	.....
	Cape of Good Hope	4,440	†4,440
	....do	.....	*4,800
Cape of Good Hope	Bombay	4,527	†6,090
	Calcutta	.....	†7,000
	Madras	.....	†7,000
	Straits of Sunda	.....	5,460
	Singapore	.....	5,960

* In southwest monsoon. † In northeast monsoon.

6. NAVIGABLE DISTANCES IN NAUTICAL MILES BETWEEN SOME OF THE PRINCIPAL PORTS OF THE GLOBE—Continued.

INDIAN OCEAN, CHINA SEA, AUSTRALIA—Continued.

From—	To—	Steam.	Sail.
		Miles.	*Miles.*
Cape of Good Hope	Perth, West Australia	.....	4, 900
	Melbourne	.....	6, 000
	Mauritius	2, 340	3, 120
Calcutta	Cape of Good Hope	5, 580	*5, 580
	... do	.....	†6, 600
	Singapore	.....	1, 630
Madras	...do	4, 960	*4, 960
	... do	.....	†5, 520
	Bombay	1, 480	†4, 320
Singapore	Melbourne, by Straits of Sunda	.....	5, 100
	Melbourne, by Baly Strait	.....	4, 800
	Sydney (northwest monsoon)	4, 380	4, 380
	Batavia	550	.....
	Cape York	.....	2, 460
Hong-Kong	Sydney (northwest monsoon), Torres Strait	4, 620	4, 620
	Sydney (northwest monsoon), north of New Guinea	5, 040	5, 040
Singapore	Hong-Kong	1, 440	*1, 980
Hong-Kong	Shanghai	800	*1, 000
	Singapore	1, 440	†1, 980
	Yokohama	1, 560	.....
	River Amur	2, 400	.....
River Amur	Petropaulski	840	.....
King George's Sound	Adelaide	1, 016	.....
Adelaide	Melbourne	505	.....
Melbourne	Sydney	550	.....
	Cape of Good Hope	6, 800	6, 800
Sydney	Brisbane	540	.....
Brisbane	Port Denison	591	.....
Port Denison	Cape York	662	.....

PACIFIC.

Rio de Janeiro	Valparaiso	‡3, 680	4, 180
Cape Horn	San Francisco	.....	7, 700
Valparaiso	Panama	2, 610	2, 610
	San Francisco	5, 100	6, 240
	Vancouver's Island	5, 800	6, 990
	Honolulu	6, 060	6, 060
	Tahiti	4, 470	4, 470
	Callao	1, 292	1, 292
	Sydney	.....	7, 950
Callao	Valparaiso	1, 292	2, 400
	Payta	500	.....
	Guayaquil	700	.....
Guayaquil	Panama	780	.....
Panama	Callao	1, 330	4, 620
	Valparaiso	2, 610	4, 320
	Realejo	690	.....
	Acapulco	1, 410	.....
	Mazatlan	2, 020	.....
	San Francisco	3, 240	5, 200
	Vancouver's Island	3, 940	5, 940
	Honolulu	.....	5, 200
	Tahiti	4, 474	4, 474
	Oparo	4, 690	.....
	Sydney	.....	7, 954
	Wellington	6, 790	6, 874
Acapulco	San Blas	490	.....
	San Francisco	1, 850	.....
San Blas	Mazatlan	120	.....
San Francisco	...do	1, 310	.....
	Valparaiso	5, 100	6, 100
	Honolulu	2, 080	2, 080
	Yokohama	4, 500	5, 680
	Vancouver's Island	700	.....
	Sydney	.....	6, 460
	Wellington	5, 820	5, 820
	Fiji Islands	4, 740	.....
	Cape Horn	.....	6, 500
Vancouver's Island	Honolulu	2, 400	2, 400
	Valparaiso	5, 800	6, 820
Petropaulski	Vancouver	3, 000	3, 000
	Honolulu	2, 820	2, 820

* In northeast monsoon. † In southwest monsoon. ‡ By Magellan.

6. NAVIGABLE DISTANCES IN NAUTICAL MILES BETWEEN SOME OF THE PRINCIPAL PORTS OF THE GLOBE—Continued.

PACIFIC—Continued.

From—	To—	Steam.	Sail.
		Miles.	*Miles.*
Honolulu	Petropaulski	.....	3,450
	Bering's Straits	.....	2,820
	Vancouver's Island	2,400	2,580
	Panama	.....	5,280
	San Francisco	2,080	2,280
	Yokohama	3,600	3,600
	Hong-Kong	4,950	4,950
	Sydney	4,380	4,380
	Tahiti	2,380	.....
	Valparaiso	.....	7,300
	Fiji Islands	2,780	2,780
	Cape Horn	.....	7,100
Yokohama	Vancouver's Island	.....	4,300
	San Francisco	.....	4,500
	Shanghai	1,035	.....
Nagasaki	....do	454	.....
Shanghai	Tien-Tsin	735	.....
Yokohama	Hong-Kong	1,560	.....
Hong-Kong	Manila	650	.....
Tahiti	Wellington	2,400	2,400
	Sydney	3,480	3,480
	Fiji Islands	1,800	1,800
Sydney	Wellington	1,200	1,200
	Auckland	.....	1,260
	Panama	.....	8,100
	Valparaiso	.....	6,240
	Cape Horn	.....	5,750
	Hong-Kong	.....	5,820
	Shanghai	.....	5,700
	Yokohama	.....	5,280
	Fiji Islands	1,665	.....
Melbourne	Wellington	1,470	1,470
	Cape Horn	.....	5,940
Auckland	Fiji Islands	1,080	.....
	Wellington	540	.....
Wellington	Lyttleton	200	.....
Littleton	Otago	230	.....

7. INSTRUCTIONS FOR THE GUIDANCE OF MASTERS AND SEAMEN WHEN USING THE MORTAR AND ROCKET APPARATUS FOR SAVING LIFE.

(1) A rocket or shot with a thin line attached will be fired across your vessel; get hold of this line as soon as you can, and when you have secured it let one of the crew be separated from the rest and, if in the daytime, wave his hat, or his hand, or flag, or handkerchief; or if at night, let a rocket, a blue light, or a gun be fired, or let a light be displayed over the side of the ship and be again concealed, as a signal to those on shore.

(2) When you see one of the men on shore separated from the rest, wave a red flag, or (if at night) show a red light and then conceal it; you are to haul upon the rocket line until you get a tailed block with an endless fall rove through it.

(3) Make the tail of the block fast to the mast about 15 feet above the deck, or if your masts are gone, to the *highest secure* part of the vessel. When the tail block is is made fast and the rocket line unbent from the whip let one of the crew, separated from the rest, make the signal required by article 1 above.

(4) As soon as the signal is seen on shore a hawser will be bent to the whip line and will be hauled off to the ship by those on shore.

(5) When the hawser is got on board the crew should at once make it fast to the same part of the ship as the tailed block is made fast to, only about 18 inches higher, taking care that there are no turns of the whip line drawn round the hawser.

(6) When the hawser has been made fast on board, the signal directed to be made in article 1 above is to be repeated.

(7) The men on shore will then pull the hawser taut, and by means of the whip line will haul off to the ship a sling cot, or life-buoy, into which the person to be hauled ashore is to get and be made fast. When he is in, and secure, one of the crew must be separated from the rest, and again signal to the shore as directed in article 1 above. The people on shore will then haul the person in the sling to the shore,

and when he has landed will haul back the empty sling to the ship for others. This operation will be repeated until all persons are hauled ashore from the wrecked vessel.

(8) It may sometimes happen that the state of the weather and the condition of the ship will not admit of a hawser being set up; in such cases a sling or life-buoy will be hauled off instead and the shipwrecked persons will be hauled through the surf instead of along a hawser.

Masters and crews of stranded vessels should bear in mind that success in landing them in a great measure depends upon their coolness and attention to the rules here laid down, and that by attending to them many lives are annually saved by the mortar and rocket apparatus on the coasts of the United Kingdom.

The system of signaling must be strictly adhered to, and all women, children passengers, and helpless persons should be landed before the crew of the ship.

8. WEATHER INDICATIONS.

It should always be remembered that the state of the air *foretells coming* weather rather than indicates weather that is *present* (an invaluable fact too often overlooked); that the longer the time between the signs and the change foretold by them the longer such altered weather will last and, on the contrary, the less time between a warning and a change the shorter will be the continuance of such predicted weather.

If a barometer has been about its ordinary height, and is *steady* or rising—while the thermometer falls and dampness becomes less—northwesterly, northerly, or northeasterly wind, or less wind, less rain or snow, may be expected. On the contrary, if a fall takes place with a rising thermometer and increased dampness, wind and rain may be expected from the southeastward, southward, or southwestward. In winter a considerable fall, with rather low thermometer, foretells snow. Exceptions to these rules occur.

The most dangerous shifts of wind, or the *heaviest* northerly gales, happen soon after the barometer *first* rises from a very low point; or, if the wind veers *gradually*, at some short time afterwards, although with a *rising* glass.

Indications of approaching change of weather and the direction and force of winds are shown much less by the height of the barometer than by its falling or rising.

A rapid rise of the barometer indicates unsettled weather; a slow movement of some duration the *contrary;* as does likewise a *steady* barometer, which, when continued and with dryness, foretells very fine weather, lasting for some time.

A rapid and considerable fall is a sign of stormy weather and rain (or snow). Alternate rising and sinking, or oscillation, always indicates unsettled and disagreeable weather.

Another remarkable peculiarity is that the wind usually *appears* to veer, shift, or go round *with the sun* (right-handed, or from left to right), and that when it does not do so, or backs, *more* wind or bad weather may be expected instead of improvement after a short interval.

A barometer begins to rise considerably before the conclusion of a gale, sometimes even at its commencement. Before and during the *earlier* part of settled weather it usually stands high and is stationary, the air being dry.

Instances of fine weather with a low glass occur, however, rarely, but they are always preludes to a *duration* of wind or rain.

Whether clear or cloudy, a rosy sky at sunset presages fine weather; a sickly-looking *greenish* hue, wind and rain; a dark (*or Indian*) red, rain; a red sky in the morning, bad weather or much wind (perhaps rain); a gray sky in the morning, fine weather; a high dawn, wind; a low dawn, fair weather. A "high dawn" is when the first indications of daylight are seen above a bank of clouds. A "low dawn" is when the day breaks on or near the horizon, the first streaks of light being very low down.

Soft looking or delicate clouds fortell fine weather with moderate or light breezes; hard-edged, oily-looking clouds, wind. A dark, gloomy blue sky is windy, but a light, bright blue sky indicates fine weather. Generally the *softer* clouds look the less wind (but perhaps more rain) may be expected, and the harder, more "greasy," rolled, tufted, or ragged the stronger the coming wind will prove. Also, a bright yellow sky at sunset presages wind; a pale yellow, wet; therefore, by the prevalence and kind of red, yellow, or other tints, the coming weather may be foretold very nearly; indeed, if aided by instruments, almost exactly.

Small inky-looking clouds foretell rain; light scud clouds, driving across heavy masses, show wind and rain; but if alone may indicate wind only.

High upper clouds crossing the sun, moon, or stars in a direction different from that of the lower clouds, or the wind then felt below, foretell change of wind *toward their direction.*

After fine clear weather the first signs in the sky of a coming change are usually

light streaks, curls, wisps, or mottled patches of white distant clouds, which increase and are followed by an overcasting of murky vapor that grows into cloudiness. This appearance, more or less oily or watery, as wind or rain will prevail, is an infallible sign.

Light, delicate, quiet tints or colors, with soft, undefined forms of clouds, indicate and accompany fine weather; but unusual or gaudy hues, with hard, definitely-outlined clouds fortell rain and probably strong wind.

Misty clouds forming or hanging on heights show wind and rain coming, if they remain, increase, or descend; if they rise or disperse, the weather will improve or become fine.

9. REGULATIONS FOR PREVENTING COLLISIONS AT SEA.

[As ordered by the board of trade.]

ARTICLE 1. In the following rules every steamship which is under sail and not under steam is to be considered a sailing ship; and every steamship which is under steam, whether under sail or not, is to be considered a ship under steam.

RULES CONCERNING LIGHTS.

ART. 2. The lights mentioned in the following articles numbered 3, 4, 5, 6, 7, 8, 9, 10, and 11, and no others, shall be carried in all weathers, from sunset to sunrise.

ART. 3. A sea-going steamship when under way shall carry—

(*a*) On or in front of the foremast, at a height above the hull of not less than 20 feet, and if the breadth of the ship exceeds 20 feet, then at a height above the hull of not less than such breadth, a bright white light, so constructed as to show an uniform and unbroken light over an arc of the horizon of 20 points of the compass, so fixed as to throw the light 10 points on each side of the ship, viz, right ahead to 2 points abaft the beam on either side, and of such a character as to be visible on a dark night with a clear atmosphere, at a distance of at least 5 miles.

(*b*) On the starboard side a green light, so constructed as to show an uniform and unbroken light over an arc of the horizon of 10 points of the compass; so fixed as to throw the light from right ahead to 2 points abaft the beam on the starboard side, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least 2 miles.

(*c*) On the port side a red light, so constructed as to show an uniform and unbroken light over an arc of the horizon of 10 points of the compass; so fixed as to throw the light from right ahead to 2 points abaft the beam on the port side; and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least 2 miles.

(*d*) The said green and red side lights shall be fitted with inboard screens projecting at least 3 feet forward from the light, so as to prevent these lights from being seen across the bow.

ART. 4. A steamship, when towing another ship, shall, in addition to her side lights, carry two bright white lights in a vertical line one over the other, not less than 3 feet apart, so as to distinguish her from other steamships. Each of these lights shall be of the same construction and character, and shall be carried in the same position as the white light which other steamships are required to carry.

ART. 5. (*a*) A ship, whether a steamship or a sailing ship, which from any accident is not under command, shall at night carry, in the same position as the white light which steamships are required to carry, and, if a steamship, in place of that light, three red lights in globular lanterns, each not less than 10 inches in diameter, in a vertical line one over the other, not less than 3 feet apart, and of such a character as to be visible on a dark night, with a clear atmosphere, at a distance of at least 2 miles; and shall by day carry, in a vertical line one over the other, not less than 3 feet apart, in front of but not lower than her foremast head, three black balls or shapes, each 2 feet in diameter.

(*b*) A ship, whether a steamship or a sailing ship employed in laying or in picking up a telegraph cable, shall at night carry in the same position as the white light which steamships are required to carry, and, if a steamship, in place of that light, three lights in globular lanterns, each not less than 10 inches in diameter, in a vertical line over one another, not less than 6 feet apart; the highest and lowest of these lights shall be red and the middle light shall be white, and they shall be of such a character that the red lights shall be visible at the same distance as the white light. By day she shall carry in a vertical line one over the other not less than 6 feet apart, in front of but not lower than foremast head, three shapes not less than 2 feet in diameter, of which the top and bottom shall be globular in shape and red in color, and the middle one diamond in shape and white.

(*c*) The ships referred to in this article, when not making any way through the water, shall not carry the side lights, but when making way shall carry them.

(*d*) The lights and shapes required to be shown by this article are to be taken by other ships as signals that the ship showing them is not under command, and therefore can not get out of the way. The signals to be made by ships in distress and requiring assistance are contained in article 27.

ART. 6. A sailing ship under way or being towed shall carry the same lights as are provided, by article 3, for a steamship under way, with the exception of the white light, which she shall never carry.

ART. 7. Whenever, as in the case of small vessels during bad weather, the green and red side lights can not be fixed, these lights shall be kept on deck, on their respective sides of the vessel, ready for use; and shall, on the approach of or to other vessels, be exhibited on their respective sides in sufficient time to prevent collision, in such manner as to make them most visible, and so that the green light shall not be seen on the port side nor the red light on the starboard side.

To make the use of these portable lights more certain and easy the lanterns containing them shall each be painted outside with the color of the light they respectively contain, and shall be provided with proper screens.

ART. 8. A ship, whether a steamship or a sailing ship, when at anchor, shall carry, where it can best be seen, but at a height not exceeding 20 feet above the hull, a white light, in a globular lantern, of not less than 8 inches in diameter, and so constructed as to show a clear uniform and unbroken light visible all round the horizon, at a distance of at least 1 mile.

ART. 9. A pilot vessel, when engaged on her station on pilotage duty, shall not carry the lights required for other vessels, but shall carry a white light at the masthead, visible all round the horizon, and shall also exhibit a flare-up light or flare-up lights at short intervals, which shall never exceed 15 minutes.

A pilot vessel, when not engaged on her station on pilotage duty, shall carry lights similar to those of other ships.

LIGHTS FOR OPEN BOATS AND FISHING VESSELS.

ART. 10. Open boats and fishing vessels of less than 20 tons net registered tonnage, when under way and when not having their nets, trawls, dredges, or lines in the water, shall not be obliged to carry the colored side lights; but every such boat and vessel shall in lieu thereof have ready at hand a lantern with a green glass on the one side and a red glass on the other side, and on approaching to or being approached by another vessel, such lantern shall be exhibited in sufficient time to prevent collision, so that the green light shall not be seen on the port side nor the red light on the starboard side.

The following portion of this article applies only to fishing vessels and boats when in the sea off the coast of Europe lying north of Cape Finisterre:

(*a*) All fishing vessels and fishing boats of 20 tons net registered tonnage or upwards, when under way and when not required by the following regulations in this article to carry and show the lights therein named, shall carry and show the same lights as other vessels under way.

(*b*) All vessels when engaged in fishing with drift nets shall exhibit 2 white lights from any part of the vessel where they can be best seen Such lights shall be placed so that the vertical distance between them shall not be less than 6 feet and not more than 10 feet, and so that the horizontal distance between them measured in a line with the keel of the vessel shall not be less than 5 feet and not more than 10 feet. The lower of these 2 lights shall be the more forward, and both of them shall be of such a character and contained in lanterns of such construction as to show all round the horizon, on a dark night, with a clear atmosphere, for a distance of not less than 3 miles.

(*c*) A vessel employed in line fishing with her lines out shall carry the same lights as a vessel when engaged in fishing with drift nets.

(*d*) If a vessel when fishing becomes stationary in consequence of her gear getting fast to a rock or other obstruction she shall show the light and make the fog-signal for a vessel at anchor.

(*e*) Fishing vessels and open boats may at any time use a flare-up in addition to the lights which they are by this article required to carry and show. All flare-up lights exhibited by a vessel when trawling, dredging, or fishing with any kind of drag net shall be shown at the after part of the vessel, excepting that, if the vessel is hanging by the stern to her trawl, dredge, or drag net, they shall be exhibited from the bow.

(*f*) Every fishing vessel and every open boat when at anchor between sunset and sunrise shall exhibit a white light visible all round the horizon at a distance of at least 1 mile.

(*g*) In fog, mist, or falling snow a drift net vessel attached to her nets and a vessel

when trawling, dredging, or fishing with any kind of drag net, and a vessel employed in line fishing with her lines out, shall at intervals of not more than 2 minutes make a blast with her fog horn and ring her bell alternately.

ART. 11. A ship which is being overtaken by another shall show from her stern to such last-mentioned ship a white light or a flare-up light.

SOUND SIGNALS FOR FOG, ETC.

ART. 12. A steamship shall be provided with a steam whistle or other efficient steam sound signal, so placed that the sound may not be intercepted by any obstructions, and with an efficient fog horn to be sounded by a bellows or other mechanical means, and also with an efficient bell (a drum is used on Turkish vessels). A sailing ship shall be provided with a similar fog horn and bell.

In fog, mist, or falling snow, whether by day or night, the signals described in this article shall be used as follows, that is to say—

(*a*) A steamship under way shall make with her steam whistle, or other steam sound signal, at intervals of not more than 2 minutes, a prolonged blast.

(*b*) A sailing ship under way shall make with her fog horn, at intervals of not more than 2 minutes, when on the starboard tack one blast, when on the port tack two blasts in succession, and when with the wind abaft the beam three blasts in succession.

(*c*) A steamship and a sailing ship, when not under way, shall, at intervals of no more than 2 minutes, ring the bell.

ART. 13. Every ship, whether a sailing ship or steamship, shall, in a fog, mist, or falling snow, go at a moderate speed.

STEERING AND SAILING RULES.

ART. 14. When two sailing ships are approaching one another so as to involve risk of collision one of them shall keep out of the way of the other as follows, viz:

(*a*) A ship which is running free shall keep out of the way of a ship which is close-hauled.

(*b*) A ship which is close-hauled on the port tack shall keep out of the way of a ship which is close-hauled on the starboard tack.

(*c*) When both are running free with the wind on different sides the ship which has the wind on the port side shall keep out of the way of the other.

(*d*) When both are running free with the wind on the same side the ship which is to windward shall keep out of the way of the ship which is to leeward.

(*e*) A ship which has the wind aft shall keep out of the way of the other ship.

ART. 15. If two ships under steam are meeting end on, or nearly end on, so as to involve risk of collision, each shall alter her course to starboard, so that each may pass on the port side of the other.

This article only applies to cases where ships are meeting end on, or nearly end on, in such a manner as to involve risk of collision, and does not apply to two ships which must, if both keep on their respective courses, pass clear of each other.

The only cases to which it does apply are, when each of the two ships is end on, or nearly end on, to the other; in other words, to cases in which, by day, each ship sees the masts of the other in a line, or nearly in a line, with her own; and by night, to cases in which each ship is in such a position as to see both the side lights of the other.

It does not apply by day to cases in which a ship sees another ahead crossing her own course; or by night to cases where the red light of one ship is opposed to the red light of the other, or where the green light of one ship is opposed to the green light of the other, or where a red light, without a green light, or a green light without a red light, is seen ahead, or where both green and red lights are seen anywhere but ahead.

ART. 16. If two ships under steam are crossing, so as to involve risk of collision, the ship which has the other on her own starboard side shall keep out of the way of the other.

ART. 17. If two ships, one of which is a sailing ship and the other a steamship, are proceeding in such directions as to involve risk of collision, the steamship shall keep out of the way of the sailing ship.

ART. 18. Every steamship, when approaching another ship so as to involve risk of collision, shall slacken her speed or stop, and reverse, if necessary.

ART. 19. In taking any course authorized or required by these regulations, a steamship under way may indicate that course to any other ship which she has in sight by the following signals on her steam whistle, viz:

One short blast, to mean "I am directing my course to starboard."

Two short blasts, to mean "I am directing my course to port."

Three short blasts, to mean "I am going full speed astern."

The use of these signals is optional, but if they are used, the course of the ship must be in accordance with the signal made.

ART. 20. Notwithstanding anything contained in any preceding article, every ship, whether a sailing ship or a steamship, overtaking any other shall keep out of the way of the overtaken ship.

ART. 21. In narrow channels every steamship shall, when it is safe and practicable, keep to that side of the fairway or mid-channel which lies on the starboard side of such ship.

ART. 22. Where by the above rules one of two ships is to keep out of the way, the other shall keep her course.

ART. 23. In obeying and construing these rules, due regard shall be had to all dangers of navigation, and to any special circumstances which may render a departure from the above rules necessary in order to avoid immediate danger.

ART. 24. Nothing in these rules shall exonerate any ship, or the owner or master or crew thereof, from the consequences of any neglect to carry lights or signals, or of any neglect to keep a proper lookout, or of the neglect of any precaution which may be required by the ordinary practice of seamen, or by the special circumstances of the case.

ART. 25. Nothing in these rules shall interfere with the operation of a special rule, duly made by local authority, relative to the navigation of any harbor, river, or inland navigation.

ART. 26. Nothing in these rules shall interfere with the operation of any special rules made by the government of any nation with respect to additional station and signal lights for two or more ships of war or for ships sailing under convoy.

SIGNALS OF DISTRESS.

ART. 27. When a ship is in distress and requires assistance from other ships or from the shore, the following shall be the signals to be used or displayed by her, either together or separately, that is to say:

In the daytime—

1. A gun fired at intervals of about a minute;
2. The international code signal of distress indicated by N. C.;
3. The distant signal, consisting of a square flag, having either above or below it a ball, or anything resembling a ball.

At night—

1. A gun fired at intervals of about a minute;
2. Flames on the ship (as from a burning tar barrel, oil barrel), etc.;
3. Rockets or shells, throwing stars of any color or description, fired one at a time, at short intervals.

ALTERNATIVE LIGHTS FOR TRAWLERS WHEN ENGAGED IN TRAWLING, HAVING THEIR TRAWLS IN THE WATER AND NOT BEING STATIONARY.

I.—*Steam trawlers of 20 tons gross register tonnage or upwards.*

(1) On or in front of the foremast-head, and in the same position as the white light which other steamships are required to carry, a lantern showing a white light ahead, a green light on the starboard side, and a red light on the port side, such lantern shall be so constructed as to show a uniform and unbroken white light over an arc of the horizon of 4 points of the compass, a uniform and unbroken green light over an arc of the horizon of 10 points of the compass and a uniform and unbroken red light over an arc of the horizon of 10 points of the compass, so fixed as to show the white light from right ahead to 2 points on the bow on each side of the ship, the green lights from 2 points on the starboard bow to 4 points abaft the beam on the starboard side, and the red light from 2 points on the port bow to 4 points abaft the beam on the port side.

(2) A white light in a globular lantern of not less than 8 inches in diameter, and so constructed as to show a clear, uniform, and unbroken light all round the horizon. The lantern containing such white light shall be carried lower than the lantern showing the green, white, and red lights, so that the vertical distance between them shall not be less than 6 nor more than 12 feet.

II.—*Sailing trawlers of 20 tons net register tonnage or upwards.*

(1) On or in front of the foremast-head a lantern having a green glass on the starboard side and a red glass on the port side, so constructed that the red and green do not converge, and so as to show a uniform and unbroken green light over an arc of the horizon of 12 points of the compass and a uniform and unbroken red light over

an arc of the horizon of 12 points of the compass, and it shall be so fixed as to show the green light from right ahead of 4 points abaft the beam on the starboard side, and the red light from right ahead to 4 points abaft the beam on the port side.

(2) A white light in a globular lantern of not less than 8 inches in diameter, and so constructed as to show a clear, uniform, and unbroken light all round the horizon. The lantern containing such white light shall be carried lower than the lantern showing the green and red lights, so that the vertical distance between them shall not be less than 6 feet and not more than 12 feet.

III.—*Sailing trawlers of any tonnage.*

A white light in a globular lantern of not less than 8 inches in diameter, and so constructed as to show a clear, uniform and unbroken light all round the horizon and visible on a dark night, with a clear atmosphere, for a distance of at least 2 miles; and also a sufficient supply of red pyrotechnic lights which shall each burn for at least 30 seconds, and shall when so burning be visible for the same distance under the same conditions as the white light. The white light shall be shown from sunset to sunrise, and one of the red pyrotechnic lights shall be shown on approaching, or on being approached by, another ship or vessel in sufficient time to prevent collision.

10. FOREIGN PORT CHARGES OF NORWAY, SWEDEN, DENMARK, FINLAND, RUSSIA, BELGIUM, HOLLAND, SPAIN, FRANCE, AND GERMANY, INCLUDING HARBOR AND DOCK DUES, TOWING, PILOTAGE, BALLAST, CONSULAGE, AND OTHER CHARGES.

[By Fredrik W. Clausen, Peterhead (carefully supplied by brokers and captains), and, while using every means possible to insure accuracy, can not be responsible for any error that may occur.]

NORWAY.

REMARKS.—Captains bound to any Norwegian port must make a declaration ready before they enter the ports, which is to be handed to the first custom officer coming on board, and must be after the following manner. Captains are liable to a heavy penalty if this is not done before officers come on board.

Form of custom-house declaration.

I, captain ———, of the ship ———, belonging to ———, measuring —— registered tons, coming from ———, bound for ———, declare to have a cargo (here specify) and stores consisting of quantity of —— tobacco, —— brandy, —— cigars, —— beef, —— sugar, —— tea, —— beans, —— pease, —— pork, etc., and no other goods.

Signed and declared at sea——— (date),

——— (Captain's signature).

BERGEN.

Ships can sail to Bergen by three ways, through Skudisnaasfjord, Bommelfjord, and Korsfjord, but the pilotage is very high. Ships pay pilotage after government tax. Ships going in Bommelfjord pay for 12 miles, going in Skudisnaasfjord pay for 24, and going in Korsfjord pay for 8. So the cheapest and nearest way from sea is to go in Korsfjord. Captains are bound to engage the first pilot offered or else pay two pilots. Ships from 100 to 150 registered tons will always get out freights for the summer months.

[Per registered ton.]	Kroners.
Harbor dues, in or out	0.80
Harbor dues, in ballast	free.
Harbor office, 2 per cent.	
Pilot from sea, 30 kroners and upwards tax.	
Harbor pilot	5.00
Harbor pilot for steamers	10.00
Laborers for keel coals	10.00
Custom-house watchman from sea	6.50
Clearance inwards	0.13
Clearance outwards	0.20
Chartering commission, 3 per cent.	
Harbor master, per vessel	3.00
Pilot master, per vessel	4.00
Sailors' home, per vessel	2.50
Ballast for 12 tons	16.00
Ballast watchman, per hour	0.25
Depth of water enough for any vessel.	

CHRISTIANIA.

[Per registered ton.]	
Harbor police	0.02
Light dues, in and out	0.80
Ballast, per ton	1.00
Pilotage from Forder to Christiania, vessel of 140 registered tons, 12 to 13 feet	70.00
Tonnage dues for standard	1.20
Tugboat, agreement very cheap.	
Depth of water enough for any vessel.	
Always freights for small vessels.	

CHRISTIANSAND.

Vessels at any depth can enter this port. No tide; ships can go in and out at any time. Pilots can always be obtained at sea. This place is a very cheap place and a good port for shelter or repairing. Close to Christiansand there are many places for shelter, viz: Ny, Hellesund, Flekkeroe, Randesund, Ulvesund, and Gamli, Hellesund.

Windbound ships pay no dues. But

pilotage is compulsory coming from foreign. Tugboats are always at hand, from 40 Kroners upwards, according to size. Depth of water, 20 to 30 feet.

Dues and expenses like any other Norwegian port. Plenty of ships' wharfs and a dry dock 320 feet long, 40 feet broad, 19 feet deep.

DRAMMEN.

[Vessel of 264 registered tons.]

	Kroners.
Tugboat from Xama	75.00
Loading and light dues	211.00
Harbor office	4.20
Exchange dues	8.00
Pilot, out	60.00
Pilot, in	30.00
Ring-money	8.00
Tugboat, out	15.00
Stevedore, loading	200.00

DROBAK.

[Vessel of 264 registered tons.]

Customs dues in	211.00
Harbor office	3.00
Tugboat from Svelvig	60.00
Harbor pilot	4.00
Loading and light dues, out	211.00
Pilotage, out	56.00
Pilotage, in	30.00
Stevedore, loading	108.00
Tugboat to sea	12.00

DRONTHEIM.

Steamer into harbor, about	40.00
Harbor pilots and two men, about	15.00
Light dues, per registered ton, in or out	.80
Harbor office, 3 per cent. of above amount.	
Exchange dues per registered ton	.05
Ballast, per ton	1.00

Depth of water, 14 to 19 feet.

Vessels are not allowed to use fire on board when discharging at the storehouse, and must make and cook the dinner ashore, at 0.60 kroners per day.

Pilotage in, for a vessel 200 registered tons and drawing 9 feet	22.00
Pilotage out, for a vessel 200 registered tons and drawing 9 feet	13.20
Buoy money to the harbor, over 200 registered tons	4.00
Harbormaster's fee, over 200 registered tons	4.00

Vessels will always get freights with timber.

FREDRIKSTAD.

[Per registered ton.]

Harbor and light dues inwards	.80
Harbor and light dues outwards	.80
Harbor office, 3 per cent. of the amount.	
Discharging ballast, per ton	.20
Pilotage for a vessel 200 registered tons, 9 feet, inwards	35.00
Pilotage for a vessel, 200 registered ton, 9 feet outwards, 11 feet	30.00

Tugboat, agreement very cheap.

Depth of water for any vessel in.

Vessels loading ice, stone, or feldspar, not longer than 19 decimetres, are free of harbor and light dues.

FREDRIKSHALD.

[Vessel of 98 tons registered.]

Steamer in	25.00
Steamer out	20.00
Custom house dues	82.00
Pilotage in	35.00
Pilotage out	25.00

	Kroners.
Consulage	7.00
Custom-house outwards	82.00
Clearance	20.00

HAMMERFEST.

[Per registered ton.]

Harbor dues, in or out	.80
In ballast, free.	
Ballast, per ton	1.35
Laborage, per ton	.40
Harbor office, per vessel	4.00

No tugboat, only passenger boats might tow. Very cheap place.

Depth of water, 23 feet.

HOLMESTRAND.

[Per registered ton.]

Harbor office	.09
Harbor dues in or out	.80
In ballast free.	
Pilotage, 100 to 150 registered tons, 13 feet	15.00

Winter, 25 per cent. more.

Tugboat, per agreement.

Light dues, 2 per cent. of harbor dues.

Depth of water, inner harbor, 10 feet.

Depth of water, outer harbor, 11 feet.

LAURVIG.

[Vessel of 264 registered tons.]

Pilot in	35.00
Harbor pilot	3.00
Tugboat to sea	27.00
Harbormaster	2.60
Dock quay dues	52.00
Custom dues	215.00
Clearance	30.00
Stevedore, loading	180.00
Ballast, discharging	50.00
Pilot out	20.00

SKIEN.

[Dues for a vessel 150 registered tons.]

Pilotage up to Skien, 11 feet	40.00
Pilotage out to sea, 11 feet	22.00
Light and tonnage dues, in or out, per registered ton, 0.80	120.00
Timber under 6 feet, ice, and iron ore free of dues.	
Quay money, per registered ton, 0.16	24.00
Ballast per agreement.	
Tugboat from sea	65.00
Tugboat to sea	45.00

Depth of water at the quay, 14 feet; in the harbor a little more.

TROMSOE.

[Vessel of 400 registered tons.]

Pilotage, summer, 15 feet	35.50
Pilotage, winter, 15 feet	44.80
Extra, per mile, winter, from sea	5.20
Extra, per mile, summer, from sea	4.05
Pilotage compulsory from foreign.	
Harbor dues, in or out	0.80
In ballast, free.	
Ballast, per ton	1.00
Harbormaster's fee, per vessel	4.00
Buoy money for fastening ropes, per vessel	4.00

Depth of water, 10 to 20 feet.

Captains bound for any ports north of Norway should always take the first chance to engage a pilot, the coast being very dangerous with rocks, etc.

The way to Tromsoe is going in Vestfjorden, getting pilot at Lodingen; in Malangen, getting pilot at Halkingen; in Kvalsund, getting pilot at Halkiagen.

Pilots can always be obtained for sea, at Andenæs, Hopingan, and Lodingen.

SWEDEN.

Government charges on ships to or from *all* Swedish ports to foreign ports consist of tonnage, light, and seamen's house dues.

Tonnage dues.—Every ship arriving from foreign ports with cargo pay said dues at 14 ore per registered ton. If arriving in ballast this amount is only payable the first voyage during a calendar year. Ships clearing with cargo or in ballast for foreign ports pay also tonnage dues 14 ore per ton only the first voyage in a year.

Light dues.—Every ship arriving from or going to foreign ports pay light dues, when loaded, 27 ore, when in ballast, 13½ ore per registered ton. If a ship during same calendar year make more voyages to or from Swedish ports, said dues are only charged until such ship has paid together as for four times loaded, that is, 108 ore per registered ton thereof ships have to pay for, and following voyages two-thirds of said amount, say 18 ore loaded or 9 ore in ballast per ton. When a ship during the same voyage arrives at one or more Swedish ports, light dues inwards and outwards are only charged once, and in that port where the ship first is entered or cleared. When a ship in such case has paid outwards only for ballasted, but the same voyage takes cargo in another port, ship has to pay in this last port remainder of light dues as for loaded. When a ship during the same calendar month makes more voyages to or from Swedish ports, light dues are only paid as for twice loaded; therefore a ship is entirely free of light dues for the same month. In order to avoid error, custom-house receipts for light dues paid during same calendar year should always be presented at custom-house when ship is reported for clearance.

Seamen's house dues.—Every ship going to foreign ports, loaded or in ballast, has to pay said fees at 3 ore per registered ton, exclusive fees for expedition generally 1 to 2 kroners per ship. Seamen's house dues is only charged once at the same port during the same calendar month.

The above Government charges are the same for all Swedish ports; other charges, such as harbor dues, pilotage, etc., are different.

CARLSCRONA.

[Per registered ton.]

	Kroners.
Harbor dues, in cargo or ballast	0.12
Light dues, in or out	0.27
Vessels in ballast, half dues.	
Ballast, stone, per ton	0.90
Tonnage dues, in or out	0.14
Tugboat, k. 10 to k. 15 into the harbor.	
Sailors' Home	0.03
Depth of water in harbor, 17 feet.	
Pilotage, 13 feet	18.60
Pilotage, 12 feet	16.70
Pilotage, 14 feet	20.60
Pilotage, 15 feet	22.70
Vessels always sure to get a freight out.	

GEFLE.

[Per registered ton.]

Tonnage dues, inwards or outwards	0.14
Light dues for loaded vessels, in	0.27
Light dues for loaded vessels, out	0.27
Vessels in ballast, half dues.	
Harbor dues, inwards and outwards	0.10
Pilotage, inwards, between 20.00 and	50.00
Pilotage, outwards, between 30.00 and	50.00
Ballast, stone free alongside, per ton	1.20
Tugboat, between 40.00 and	70.00
Depth of water, 18 to 19 feet.	

GOTHENBURG.

[Vessel of 288.83 registered tons.]

Pilotage (winter rate) from Winga, 13 feet, in	40.05
Pilotage (winter rate) to Hakefjord, 9 feet, out	19.85
Light dues (higher rate), in	77.98
Light dues (higher rate), out	38.99
Tonnage dues, in	40.00
Harbor dues, in, at 12½ ore per ton	36.10
Harbor dues, out, at 12½ ore per ton	36.10
Harbor office	3.14
Harbor office, for stages	10.00
Seamen's house fees	9.64
Customs stamps	1.00
Reporting, in and out	70.00

HELSINGBORG.

[Per registered ton.]

Light dues, with cargo	0.30
Light dues, in ballast	0.10
Ballast, per ton, stone k. 2½, sand	0.75
Tonnage dues, in or out	0.14
Depth of water, 17 to 18 feet.	

Pilotage.	Summer.	Winter.
Feet.	*Kroners.*	*Kroners.*
6	4.60	5.70
7	6.00	7.40
8	7.40	9.10
9	8.80	10.90
10	10.30	12.80
11	11.80	14.70
12	13.40	16.60
13	15.00	18.70
14	16.70	20.70
15	18.40	22.80
16	20.10	25.00
17	21.90	27.20
18	23.70	29.50

HERNOSAND.

(*Brunne loading place.*)

[Vessel of 264 registered tons.]

	Kroners.
Pilot master	10.00
Watchmen for ballast	8.00

	Kroners.
Pilotage from sea	22.00
Loading dues, out	74.00
Light-houses (in ballast)	37.00
Clearance	80.00
Harbor money	42.00
Tugboat, in	35.00
Tugboat, out	40.00
Stevedore, loading	45.00
Ballast, discharging	25.00

HOGANAS.

[Vessel of 288.83 registered tons.]

Pilotage (summer rate) from sea, 8 feet	7.90
Pilotage to sea, 14 feet	16.70
Harbor dues, inward, 5 ore	17.75
Harbor dues, outward, 9 ore	26.01
Light dues (half rate)	25.99

KARLSHAMN.

[Per registered ton.]

Harbor dues, in, foreign	0.12
Harbor dues, in, coastwise	0.08
Pilotage, inwards, 15 feet	20.00
Light dues, with cargo	0.30
Light dues, in ballast	0.15
Tonnage dues	0.14
Ballast, sand, per ton	1.00
Ballast, stone, per ton, free on board	2.00

Tugboat, about 30 kroners per vessel.

LULEAA.

[Per registered ton.]

Harbor dues, in or out	0.05
Ballast, discharging	0.07
Ballast, receiving	0.25
Tugboat	0.20
Tonnage dues, in or out	0.14
Light dues, in ballast, in or out	0.13½
Light dues, with cargo, in or out	0.27
Pilotage, inwards, about	40.00
Pilotage, outwards, about	30.00

Depth of water, 20 to 25 feet.

MALMÖ.

[Per registered ton.]

Harbor office, in or out	0.12
Pilotage, in and out, for vessel 19 feet	26.00
Light dues, laden	0.27
Light dues, in ballast	0.14
Ballast, per ton	1.00
Tonnage dues, in or out	0.14
Sailors' Home	0.03

Depth of water, 20 Swedish feet.

NORRKOPING.

[Vessel of 288.83 registered tons.]

Pilotage from Oxelosund, 13 feet	38.90
Pilotage from Oxelosund, 9 feet	21.20
Harbor dues, inward	34.66
Harbor dues, outward	34.66
Tonnage dues, in	40.44
Seaman's house fees	9.66
Customs stamps	1.00
Harbor master for stage, in	1.50

Stone ballast, 1½ to 2 kroners per ton.

Reporting, in and out	60.00

OSCARSHAMN.

[Per registered ton.]

Harbor dues, in and out	0.14
Light dues, in or out	0.10
Tugboat, per agreement, vessel 150 registered tons	30.00

Depth of water, 20 feet.

Pilotage, at per foot, in	1.10
Pilotage, at per foot, out	1.40

PITEA.

[Dues for vessel 158 registered tons.]

	Kroners.
Pilotage, in, 8 feet	20.00
Pilotage, out, 13 feet	34.00
Loading, 0.14 per ton, in or out	22.19
Light dues, at 0.13½ per registered ton, in	21.39
Light dues, at 0.27 per registered ton, out	42.79
Harbor office, at 0.03 per registered ton, in or out	4.75
Sailors' Home	5.75
Custom officers and harbor master	9.25
Ballast dues, at 0.12 per ton	19.02
Reporting, inwards or outwards	14.00
Tugboat, in and out	50.00

Depth of water, 14 to 15 English feet.

RONNEBY.

[Charges for vessel 290 registered tons.]

Dues for loading	320.00
Pilot, inwards	25.00
Pilot, outwards	15.00
Ballast, 88 tons	88.00
Steamboat to sea	45.00
Workmen	40.00
Light dues	45.00

RANVICK.

[Vessel of 288.83 registered tons.]

Pilotage from Herno to Hernosand	8.10
Pilotage from Hernosand to Ranvick	7.80
Light dues, in (lower rate)	25.99
Light dues, out (lower rate)	51.99
Harbor dues in Hernosand	28.88
Seamen's house fees	9.66
Customs stamps	1.00
Reporting (half rate), in and out	80.00

STOCKHOLM.

[Vessel of 288.83 registered tons.]

Tonnage dues, in	40.44
Light dues	25.99
Pilotage from Sandhaum, 13 feet	29.70
Pilotage to Sandhaum, 8 feet	5.20
Harbor dues, in	28.88
Harbor dues, out	28.88
Hospital fees	2.88
Seamen's house fees	9.66
Sea protest	2.50
Custom-house officers	11.00
Stage	2.00

Collecting freight, one-half per cent.

Harbor pilot	5.00
Reporting, in and out	60.00

SKELLEFTEAA.

[Charges for a vessel 298 registered tons.]

Pilot, inwards	22.00
Pilot, out, 14 feet	24.00
Tonnage dues, inwards and outwards	42.00
Light dues, inwards	45.00
Light dues, outwards	90.00
Dues for discharges ballast	24.00
Sailor's home	14.00
Steamboat, inwards	15.00
Steamboat, outwards	25.00

SUNDSVALL.

[Per registered ton.]

Harbor office	0.16
Pilotage, per foot	2.50
Light dues, loaded	0.27
Light dues, in ballast	0.14
Ballast, per ton (stone)	2.00
Discharging ballast, per ton	0.40
Tugboat agreement, per mile, about	30.00
Tonnage dues, inwards or outwards	0.14

Depth of water, 20 to 50 feet.

Always freights to get.

UDDEVALLA.

[Vessel of 288.83 registered tons.]

	Kroners.
Pilotage from Marstraud to Uddevalla, 11 feet (summer rate)	55.70
Light dues (lower rate) out	25.99
Harbor dues, in	23.12
Harbor dues, out	36.13
Seamen's house fees, out	9.66
Customs stamps, out	1.00
Reporting (half rate), out	15.00

TRELLEBORG.

[Per registered ton.]

Harbor dues, from or to foreign	0.14
Harbor dues, coastwise	0.10
Light dues for a loaded vessel	0.30
Light dues for a vessel in ballast	0.15
Ballast, per ton free on board	1.00
Tugboat, summer	0.10
Tugboat, winter	0.15
Tonnage dues for loaded vessel	0.14

WARBERG.

[Vessel of 288.83 registered tons.]

Pilotage from sea (summer rate), 13.9 ft., in	16.30
Pilotage, out	8.80
Light dues, in	51.99
Light dues, out	25.99
Tonnage dues, in	40.44
Harbor dues, at 12½ ore per ton, in and out	72.24
Custom-house office for attending extra hours	12.50
Custom-house stamps	1.00
Seamen's house fees	8.67
Reporting (half rate), in and out	30.00

WISBY (GOTLAND).

[Per registered ton.]

Harbor dues, foreign, in or out	0.12
Harbor dues, coastwise, in or out	0.09
Lights	0.30
Ballast, per ton	0.50
Tugboat	0.10
Tonnage dues, in or out	0.14
Pilotage, 12 feet, in	10.30
Pilotage, 14 feet, in	12.80
Pilotage, 12 feet, out	9.30
Pilotage, 15 feet, out	12.60

Depth of water in inner harbor, 11 to 12 feet.

DENMARK.

AALBORG.

[Per registered ton.]

	Kroners.
Harbor dues	0.20
Pilotage, summer, from sea to Halborg, per foot	1.96
Pilotage, winter, from sea to Halborg, per foot	2.62
Light dues at Hale	0.06
Ballast, per ton	0.90
Tonnage dues, in or out	0.50

Tugboat, per agreement.

Depth of water, 16 feet (Danish).

AEROESKJOBING.

[Per registered ton.]

Harbor lights, in	0.10
Harbor lights, out	0.10
Ballast, per ton	0.35

Pilotage, agreement.

Tugboat, agreement.

Harbor dues, according to the cargo.

Depth of water, 10 feet.

COPENHAGEN.

(*Coals in, ballast out.*)

[Vessel of 264 registered tons.]

Custom-house	132.00
Harbor dues	110.00
Pilot in from Roads	15.00
Quay dues	66.00
Reporting, in	40.00
Harbor dues, out	22.00
Clearance, out	20.00
Tugboat to Trekroner	42.00
Pilot to Dragor	26.00
64 tons of ballast	77.00

FREDERICIA.

[Per registered ton.]

Harbor office, in	0.08
Harbor office, out	0.08
Harbor dues, in	0.50
Harbor dues, out	0.50
Ballast, per ton	1.00
Ballast dues	0.03

Depth of water, 15 to 16 feet.

Pilotage, summer, per foot, in	0.52
Pilotage, summer, per foot, out	0.36
Pilotage, winter, per foot, in	0.69
Pilotage, winter, per foot, out	0.48

HORSENS.

[Per registered ton.]

Harbor dues, in	0.50
Harbor dues, out	0.50
Harbor lights, in	0.08
Harbor lights, out	0.08
Ballast, per ton	0.75
Ballast dues	0.03
Tugboat, about	0.25

Depth of water, 12 to 13 feet.

Pilotage, summer, in, per foot	1.40
Pilotage, summer, out, per foot	1.08
Pilotage, winter, in, per foot	1.87
Pilotage, winter, out, per foot	1.44

HOLBEK.

Harbor dues, per registered ton, in or out	0.50
Harbor office, per registered ton, in or out	0.08

Pilotage from Rorvig to Holbeck or back:

Vessels 50 registered tons and more from 1–5 feet:	
summer	6.00
winter	8.00
Per foot more:	
summer	1.20
winter	1.60
Vessels under 50 registered tons, 1–5 feet:	
summer	4.50
winter	6.00
Per foot more:	
summer	0.90
winter	1.20
Pilot's allowance, passage home	4.00

Pilotage not compulsory.

Ballast, per ton	0.90

Depth of water in Holbek, 11 feet.

KALLUNBORG.

[Per registered ton.]

	Kroners.
Harbor dues, in	0.50
Harbor dues, out	0.50
Ballast receiving, per ton	1.00
Ballast dues	0.03
Harbor lights, in	0.16
Harbor lights, out	0.16
Depth of water in harbor, 12 to 13 feet.	
Pilotage, summer, per foot, in	0.88
Pilotage, summer, per foot, out	0.60
Pilotage, winter, per foot, out	0.80
Pilotage, winter, per foot, in	1.17

KJOGE.

[Per registered ton.]

Harbor office, in or out	0.10
Pilotage, per foot	0.75
Ballast, per ton	0.75
Loading dues, in or out	0.50
Depth of water in harbor, 14 feet.	

KORSÖR.

[Per registered ton.]

Tonnage dues, in or out	0.50
Harbor money, in or out	0.08
Ballast, free on board, per ton	0.75
Tugboat	0.15
Ballast dues	0.03
One of Switzer's salvage steamers is lying ready for assistance in Korsör, by letter apply to Consul P. Jorgensen, Korsör.	
Depth of water in harbor, 14 to 15 feet.	

NYBORG.

Harbor dues, per registered ton, in or out	0.50
Harbor office, per registered ton, in or out	0.16
Ballast, per ton	0.80
Ballast dues, per registered ton	0.02
Pilotage, summer, per foot, in	0.68
Pilotage, summer, per foot, out	0.52
Pilotage, winter, per foot, in	0.91
Pilotage, winter, per foot, out	0.69
No tugboat; vessels sail in.	

MIDDELFART.

[Per registered ton.]

Harbor dues, in and out	1.00
Harbor lights, in	0.10
Harbor lights, out	0.13
Ballast per ton, receiving	1.00

Pilotage from sea.	Summer.	Winter.
	Kroners.	*Kroners.*
Vessels above 50 tons, 1-5 feet per foot	2.60	3.47
Vessels more than 5 feet, per foot more	0.52	0.69
Vessels under 50 registered tons, 1-5 feet, per foot	1.95	2.60
Vessels more than 5 feet, per foot more	0.39	0.52

NAKSKOV.

	Kroners.
Harbor office, per registered ton, in or out.	0.08
Harbor dues, per registered ton, in or out.	0.50
Ballast per ton	1.00
Ballast dues per registered ton	0.04
Pilotage, from sea between 1st April and 30th September:	
Vessels above 50 registered tons, per foot	1.36
Vessels under 50 registered tons, per foot	1.02
Pilotage between 1st October and 31st March:	
Vessels above 50 registered tons, per foot	1.81
Vessels under 50 registeren tons, per foot	1.36
Pilots' allowance (home passage)	2.00
Depth of water in harbor, 14 English feet.	

ODENSE.

[Per registered ton.]

Harbor office, in or out	0.13
Harbor dues, in or out	0.50
Pilotage in the roads, per foot, summer	1.12
Pilotage in the roads, per foot, winter	1.49
Tugboat, to sea, about	0.50
Ballast, per ton	0.79
Depth of water in harbor, 12 feet.	

RANDERS.

[Per registered ton.]

Harbor dues, in or out	0.50
Ballast per ton, free on deck	0.90
Harbor lights, in or out	0.12
Tugboat from sea	0.55
Ballast dues	0.03
Depth of water in the roads, 13 feet.	
Depth of water at Uggelhusene, 12 feet.	
Depth of water to Randers Harbor, 11 feet.	

Pilotage	Summer.	Winter.
From sea to Nobyhöt, per foot.		
Vessels above 50 registered tons, 1-5 feet, per foot	*Kroners.* 3.60	*Kroners.* 4.80
Above 5 feet, for each foot more	0.72	0.96
Under 50 registered tons, per foot	2.70	3.60
Above 5 feet, for each foot more	0.54	0.72

ROSKILDE.

[Per registered ton.]

	Kroners.
Harbor office, in or out	0.10
Ballast, per ton	0.75
Harbor dues, in or out	0.50
Tugboat from Fredriksund to Roskilde, about	0.50
Depth of water in harbor, 11 feet.	
Pilotage from Rorvig, summer, per foot	2.32
Pilotage from Rorvig, winter, per foot	3.10

SVENDBORG.

[Per registered ton.]

Harbor office, in or out	0.10
Ballast per ton	0.75
Ballast dues	0.02
Harbor dues, in or out	0.25
Tugboat	0.25
Depth of water in harbor, 13½ feet.	
Pilotage, summer, per foot, in	0.60
Pilotage, summer, per foot, out	0.44
Pilotage, winter, per foot, in	0.80
Pilotage, winter, per foot out	0.59

STUBBEKJOBING.

Harbor office, per registered ton, in or out.	0.10
Ballast per ton	1.00
No harbor dues.	
Pilotage; harbor pilot:	
4 feet	1.00
6 feet	2.00
9 feet	3.00
11 feet	4.00

THISTED.

[Per registered ton.]

	Kroners.
Harbor dues, in or out	0.56
Harbor office, in or out	0.08
Pilotage into harbor, summer, per foot	0.28
Pilotage into harbor, winter, per foot	0.37
Ballast per ton, about	1.50
Ballast dues	0.02

Depth of water in harbor, 10 feet.

VEILE.

Harbor dues, per registered ton, in or out.	0.50
Harbor office, per registered ton, in or out.	0.08
Pilotage from 1st April to 30th September:	Kroners.
Vessels 50 registered tons from sea to the roads, per foot per mile	0.50
From bay to harbor, per foot per mile.	0.56
Vessels under 50 registered tons, from sea to bay, per foot, per mile	0.37
From bay to harbor, per foot, per mile.	0.42
From 1st October to 31st March, one-third more.	
Ballast, per ton	0.75
Ballast dues, per registered ton	0.01

Depth of water in harbor, 12 feet.

FINLAND.

AABO.

[Charges for a vessel 160 tons register.]

	Marks.
Light dues, in	69.52
Light dues, out	69.52
Sailors' Home	16.00
Pilotage in, 13 feet	50.00
Pilotage out, 12 feet	32.00
Harbor dues	65.00

BJORNEBORG.

[Vessels of 290 registered tons.]

Pilot in	15.00
Custom dues, in	70.00
Custom dues, out	120.00
Watchmen	13.80
Harbor money	84.00
Ballast, discharging, 60 tons	90.00
Harbor office	15.00
Tugboat out	25.00
Clearance	25.00

KOTKA.

[Vessel of 232 registered tons.]

Pilot in	25.00
Harbor pilot	4.00
Harbor dues	70.00
Light and custom dues	150.00
Address commission, 2 per cent	127.00
Pilot out	26.00
Ballast, 60 tons (discharging)	30.00
Clearance	35.00

FREDRIKSHAMN.

[Vessel of 264 registered tons.]

Pilot in	25.00
Tugboat in	76.00
Watchman	15.00
Harbor money	106.00
Ballast dues	14.00
Custom dues, in	58.00
Custom dues, out	116.00
Reporting	15.00
Measureman	20.00
Pilot out	33.00
Lighterage	40.00
Ballast, discharging	65.00
Stevedore	107.00

BORGAA.

[Vessel of 344 registered tons.]

	Marks.
Custom-house dues, in	130.00
Custom-house dues, out	250.00
Loading dues	35.00
Pilot inwards	25.00
Steamboat out	40.00
Pilot out	45.00

TORNEAA.

[Vessel of 290 registered tons.]

	Kroners.
Light dues, in	61.00
Light dues, out	108.00
Watchmen	22.00
Pilot in	53.00
Tugboat in	80.00
Harbor dues	56.00
50 tons ballast, discharging	108.00
Pilot out	53.00
Clearances	25.00

ULEABORG.

[Vessel of 280 registered tons.]

	Marks.
Pilot in	40.35
Tugboat in	18.00
Ballast, discharging	90.00
Harbor and bridge money	66.00
Harbor dredger dues	69.00
Pilot out	20.00
Custom-house	13.00
Light dues	66.00
Clearances	25.00
Light dues outwards	80.00
Watchmen	30.00
Sailors' Home	25.00

WYBORG.

[Vessel of 232 registered tons.]

Pilot from Fiskaren	35.00
Tugboat in and out	45.00
Stevedore	102.00
Laborage	51.00
Custom-house, in	136.00
Custom-house, out	70.00
Stamp dues	6.00
Harbor dues	52.00
Pilot out	41.00
Address commission, 2 per cent	124.00
Ballast, discharging, 60 tons	90.00
Custom-house officers	23.00
Harbor office	11.00

RUSSIA.

CRONSTADT.

[Vessel of 290 registered tons.]

	Rubles.
Stamp dues	4.50
Harbor office	2.50
Clearances	43.00
Cook-houses	18.00
Pilot in	16.80
Pilot out	16.00
Tugboat in and out	38.00

Address commission 2 per cent.

LIBAU.

1 last measure=2 registered tons.
1 last carrying=2 tons dead weight.
1 ruble=100 copeks, about 2s.

[Per last measure.]

	Rubles.
Tonnage dues to government	0.10
Tonnage dues to harbor	0.23
Ballast dues (taking or discharging)	0.20
Cook-house fees (yearly first voyage)	0.05

[Per ship.]

Poorhouse	0.50
Loading stage, each	2.00
Pilotage, per foot	0.70
Declaration and stamps for ships:	
Below 40 measure last	17.20
Above 40 measure last	17.60
Wharf officers:	
For sailing ships	0.50
For steamers below 500 last	1.00
For steamers above 500 last	1.50

Cleaning wharves same as officers.
Gratuities per ship, 10 to 20 rubles.

PERNAU.

[Dues for a vessel 98 registered tons.]

Custom-house dues	73.00
Government dues	12.00
Discharging ballast	15.00
Consulage	4.00
Bridge money	1.00
Reporting and clearance	22.00

REVAL.

[Vessel of 344 registered tons.]

	Rubles.
Pilotage in, 15 foot	15.00
Steamboat in	15.00
Loading dues, 173 lasts	18.00
Harbor policemen	40.00
Custom-house dues	45.00
Harbor pilot out	12.00

RIGA.

[Vessel of 298 tons.]

Steamboat in	30.00
Steamboat out	15.00
Loading dues	125.00
Stevedores	80.00
Pilotage, ab	40.00

WINDAU.

Draft of water in the entrance 15 to 17 feet summer. Draft of water in the entrance 10 to 12 feet winter, but will be deeper, as a dredger is working up harbor. Pilots will be got at any time when ships in sight. Pilotage compulsory.

Tugboat—smaller ships, 6 to 12 rubles. Tugboat—bigger ships, up to 35 rubles. Winter, twice the amount.

Vessels are lying nicely in harbor, which is 30 feet deep. Plenty wharves for repairs.

Harbor dues for a vessel 146 registered tons, 50 rubles. Harbor dues for a vessel windbound, 7½ rubles. Other wind-bound dues only one-third.

HOLLAND.

AMSTERDAM.

[Charges on a vessel of 298 registered tons.]

	Guldens.
Channel and harbor dues in	33.00
Steamboat from sea	79.00
Pilotage in from sea	80.00
Loading dues	40.00
115 tons ballast	50.00
Steamboat, Ymyden to Amsterdam	63.00
Amsterdam to Uymyden	50.00
Pilotage out	28.00
Channel and harbor dues out	30.00

DELFZIEL.

[Harbor dues for a ship of 150 registered tons.]

Pilotage from sea (12 feet)	25.60
Towage inwards	12.50
Harbor dues, 5 cents per cbm	6.30
Ballast	41.60
Pilotage to sea	16.00
Towage outwards	12.50
Towage in ballast	10.40
Clearance	8.00

Commission and agency, 1 per cent.

GRONINGEN.

[The channel from Delfziel to Groningen is 13 feet.]

Harbor dues, per cbm	0.05
Harbor dues in ballast	0.02½
East harbor, per day, and cmb	0.005

Over the channel is 15 bridges.

Bridge money—per ship per bridge	0.10

Vessels discharge at the quays.

	Guldens.
Towage up to Groningen, per registered tons	0.25
Towage up to sea, per registered tons	0.25

HARLINGEN.

[Vessel of 264 registered tons.]

Lighterage	55.00
Pilot in and extra	46.50
Harbor pilot	10.00
Harbor dues	62.00
Pilot out	20.00
70 tons of ballast	65.00
Tugboat in	70.00
Clearance	20.00
Tugboat out	30.00

NIEWEDIEP.

[Vessel of 289 registered tons.]

Pilot in	75.00
Harbor dues	10.00
115 tons of ballast	20.00
Pilot out	20.00
Steamer out	70.00

A very cheap place.

SCHIEDAM.

[Dues for a vessel of 98 registered tons.]

Pilotage in or out	35.00
Harbor dues in or out	20.00
Clearance in	13.00
Clearance out	15.00
Consulage	5.00
Tugboat in	35.00
Tugboat out	25.00
Harbor police	5.00

BELGIUM.

ANTWERPEN.

[Per registered ton.]

	Francs.
Dock dues:	
25 to 85 registered tons	0.47
86 to 128 registered tons	0.53
129 to 171 registered tons	0.58
171 to 214 registered tons	0.64
215 to 257 registered tons	0.76
258 to 300 registered tons and 15 per cent.	0.82
Light dues, any size	0.22
Ballast, per last, 15 per cent. and	2.25
Clearance	0.38
Pilot into dock	10.00
No dues for loading and discharging.	

GHENT.

[Vessel of 232 registered tons.]

	Francs.
Harbor police	18.50
Pilot in	160.00
Pilot out	57.00
Channel pilot	25.00
Light dues	45.00
Bridge money	5.00
Tugboat from sea	125.00
Tugboat out	120.00
Dock dues	72.00
Lighterage	135.00
Clearance in	181.00
Ballast	100.00
Clearance in Zelsor	12.00
Clearance in Terneuzen	25.00

LOUWAIN.

	Francs.
No dock or quay dues.	
Light dues per registered ton	0.22
Tugboat from Antwerp to Louwain and return, about	75.00
Clearance in Antwerp and Louwain	1.00
Chartering commission, 5 per cent.	
Waterschant	15.00
Pilotage from Sinegott to Louwain and return	15.00
Custom-house dues	15.00

OSTEND.

[Vessel of 200 registered tons.]

	Francs.
Pilot, in and out	120.00
Pilot boat	5.00
Dock pilot	27.00
Light dues	45.00
Bridge money	20.00
Dock dues	146.00
Harbor police	15.00
Ballast, 105 tons	117.00
Harbor master	8.00
Clearance, in and out	225.00
Steamboat in	70.00
Steamboat out	50.00

SPAIN.

SEVILLE.

[Vessel of 344 tons.]

	Reals.
Pilot, inwards	0.325
Steamer, inwards	1.300
Harbor pilot	0.035
Harbor dues	2.050
Dues to the quay	1.050
Pilot, out	0.250
Protest	0.080
Steamer, out	0.900

FRANCE.

CAEN.

[Vessel of 185 registered tons.]

	Francs.
Custom-house dues	95.10
Pilotage, inwards	68.95
Pilotage, outwards	24.30
Tugboat, inwards	65.00
Tugboat, outwards	56.45
Bill of health	20.00
Clearance, in and out	150.00
Consulage	16.50
Ballast	60.00
Water	5.00
Protest	10.00

CALAIS.

[Vessel of 232 registered tons.]

Pilot, in	58.00
Pilot boat	12.00
Rope money	4.00
Tugboat, in	130.00
Dock pilot	6.00
Dock dues	126.00
Lifeboat	5.00
Ballast, 80 tons	140.00
Pilot, out	40.00
Custom dues	26.00
Tugboat, out	25.00
Clearance	128.00

DUNKIRK.

[Vessel of 71 registered tons.]

Pilot boat, in	12.00
Pilotage, in and out	18.00
Compulsory tugboat	18.00
Pilot's extra money	3.00
Noting protest	10.00
Quarantine expenses	7.00
Custom-house reports	10.00
Bridge money	4.26
Harbor dues	37.50
Dock dues	21.50
Ballast, 40 tons	40.00
Stamp dues	3.00
Allowance to discharge	2.50
Exchange dues	7.50
Clearance, in and out	30.00

HAVRE.

[Vessel of 296 registered tons.]

Pilot, in	75.00
Pilot assistance	15.00
Bill of health	30.00
Bridge money	43.20
Noting protest	12.00
Dock dues	289.00
Pilot, out	35.00
Bridge money, out	10.00
Fire watchmen	12.50

	Francs.
Clearance, in and out	230.00
Steamboat, out	60.00
Harbor pilot	12.00

ROUEN.

[Vessel of 290 registered tons.]

Pilotage from sea to Havre	25.00
Pilotage from Havre to Villequen	125.00
Pilotage from Villequen to Rouen	52.00
Pilotage from Rouen to sea	140.00
Harbor pilot	17.60
Steamboat, up	400.00
Steamboat, down	225.00
Protest	16.00
Custom-house dues	180.00
River and harbor dues	215.00

	Francs.
Brokerage	200.00
115 tons ballast, at 9.0 cwt	104.00
Fisher pilot out to sea	20.00

TROUVILLE.

[Vessel of 290 registered tons.]

Pilotage, in	74.00
Pilot boat	7.50
Tugboat, in	100.00
Harbor dues	143.00
Bill of health	30.00
90 tons ballast	135.00
Pilot, out	37.00
Pilot boat	7.50
Tugboat, out	30.00
Clearance, in and out	225.00

GERMANY.

BRAKE.

[Depth of water, 18 feet.]

	Marks.
From Bremerhaven to Brake, per metre:	
Summer	7.65
Winter	10.00
From Brake to Bremerhaven, per metre:	
Winter	7.56
Summer	5.75
Pilotage to sea, per metre:	
Summer	14.00
Spring	20.00
Winter	27.00
Harbor dues, per cbm., first week	0.05
Every week more, per cbm	0.01
Bridge money, about per ship	8.00
Ballast, per ton	1.00

Vessels going to dock pay no harbor dues, only bridge money.

BREMEN.

[Harbor dues of a vessel of 150 registered tons.]

Bremerhaven.

Tugboat	60.00
Pilotage from sea to Bremerhaven from 16th April to 15th September, per metre	23.50
Clearance:	
Ships, 50 to 100 lasts	25.30
Ships, 100 to 200 lasts	30.00
Light dues	22.50

Vessels under 70 registered tons free.

Ballast, per 15 tons	4.00

Depth of water, 11 to 12 feet.

No harbor dues, and this is a very cheap place when pilotage can be saved.

DANTZIC.

[Harbor dues, ship of 150 registered tons, cargo in and out.]

Harbor dues in, per cbm	0.10—42.30
Harbor dues out, per cbm	0.10—42.30
Harbor dues, coals only, per cbm	0.05—21.15
Pilotage from Newfairwater, 9 feet	10.50
Pilotage to Newfairwater, 10 feet	12.00
Petty expenses	5.00
Pilots for moving	1.50
Sluice money	2.00
Bridge money (two bridges if required)	3.50
Tugboat to Danzig (if required)	15.00
Tugboat to Newfairwater (if required)	15.00
Clearing, in and out	42.30

Vessels can always come up to the town with 17 feet.

FLENSBURG.

[Steamer, coals in and ballast out, 644 registered tons.]

Harbor dues in, loaded	182.60
Harbor dues out, in ballast	91.30

	Marks.
Pilot from Berk	69.15
Harbor pilot	16.75
Pilot to sea	54.70
Custom-house fees	20.00
Sundries	40.00
Water, 500 gallons	5.00
Clearance, in and out	107.20

[Sailing vessel, 160 registered tons.]

Harbor dues, in	45.20
Harbor dues, out	22.60
Pilot in from Berk	20.33
Harbor pilot	4.52
Pilot out	17.81
Ballast, 120 tons	20.00
Sundries and incasso freight	15.50
Clearance in and out	45.20

GLUCKSTADT.

[Depth of water, 18 feet.]

Pilotage, vessels with general cargo:	
From first pilot station to Bosit, per metre	16.80
From last pilot station	8.40
From Cuxhaven	4.20
Pilotage, vessels with coals, herrings, or ballast:	
From first pilot station to Bosit, per metre	12.60
From last pilot station	6.30
From Cuxhaven	4.20
Harbor dues:	
Ships with general cargo, per cbm., in	0.10
Ships with general cargo, per cbm., out	0.05
Ships in ballast or with coals, per cbm. in or out	0.05
Ships windbound, for order or havarie, have nothing to pay within 10 days.	
Tugboat, ship 100 registered tons, Helgoland to Gluckstadt	100.00
Tugboat, ship 100 registered tons, Helgoland to Cuxhaven	60.00
Ballast, per ton	1.00

Light dues to be paid in Cuxhaven.

HARBURG.

[Harbor dues for a vessel 15 registered tons, drawing 11 feet.]

(To Bosch, summer tax, from 1st April to 30th September.)

Pilotage from—	Marks.
Pilot schooner in sea	99.96
Pilot schooner first station	57.12
Pilot schooner last station	28.56
Cuxhaven	14.28
Bosch to Altona	46.80
Altona to Harburg	15.30
Harburg to Altona	8.50
Tugboat, Altona to Harburg	25.00

	Marks.
Tugboat, Harburg to Altona	20.00
Clearance	30.00
Harbor dues	10.00
Ballast, per ton	1.25
Bridge money	2.00

Vessels lie afloat with 16 feet English.

KONIGSBERG.

[Vessel of 98 tons registered.]

Harbor dues, in or out	27.70
Clearance, in or out	20.20
Pilotage, in or out	15.00
Steamboat, in	40.00
Steamboat, out	45.00
Brokerage	25.00

LUBECK.

[Harbor dues, ship 150 registered tons—425 cbm.]

Harbor dues, cargo in	51.00
Harbor dues, ballast out	25.50
Water money	1.20
Pilotage inwards	21.25
Pilotage outwards	21.25
Towage from Travemunde to Lubeck	63.75
Towage from Lubeck to Travemunde	42.50
Ballast 60 tons	20.00

MEMEL.

Harbor dues inwards, per cbm	0.10
Harbor dues outwards	0.10
Vessels in ballast, coals, or salt only	0.05
Ballast dues, per cbm	0.08
River pilot	12.00
Address commission to merchant, per cbm	0.12
Pilotboat outwards	8.00
Bridge money	7.00
Clearance per cbm., in	0.10
Clearance per cbm., out	0.15
In ballast both ways, per cbm	0.10

Chartering commission, 2½ per cent.
Depth of water, 20 feet.

RENDSBURG.

Pilotage to 250 cbm. per cbm. Rmff	0.14
For every cbm. more	0.07

From Rendsburg to Holtenau, one-fourth of the whole amount.
From Rendsburg to Pahltrude, one-half of the whole amount.
From Rendsburg to Horst, three-fourths of the whole amount.

Lowest pilotage	13.50
Harbor dues per cbm	0.10

The channel is 2.68 metres deep, 28.07 metres long, 7.47 metre broad.
Compulsory pilotage for steamers, but for sailing vessels only in the Upper Eider Channel. Tugboat for printed tax.

Bridge money for cbm., laden	0.02
Bridge money for cbm., in ballast	0.00½

STETTIN.

[Vessel of 150 registered tons.]

	Marks.
Harbor dues	8.90
Exchange dues	10.60
Dock dues	2.00
Steamboat down river	40.00
Clearance, in and out	66.00
Pilotage, per 280 cbm	15.00
Pilotage, for every cbm. more, extra	1.00

Address commission, 2 per cent.
Chartering commission, 2½ per cent.

SWINEMÜNDE.

[Vessel of 150 registered tons.]

Harbor dues, in or out with cargo	66.00
Pilotage, in or out	40.00
Clearance, in or out	25.00
Expenses	5.25
Steamboat up river	60.00

Stettin and Swinemünde are very cheap places, when steamer can be saved.

WISMAR.

Pilotage, from 20th March to 19th October, from 5 marks up to 45 marks, according to size.
Pilotage, 19th October to 20th March, from 5 marks up to 57 marks, according to size.

	Marks.
Tugboat inwards, 250 cbm	18
Tugboat inwards, 260 cbm. to 300 cbm	21
Tugboat inwards, 301 cbm. to 350 cbm	24
For every 100 cbm. more	3
Custom-house dues—	
150 cbm	3.00
150–200 cbm	12.00
201–250 cbm	21.00
251–300 cbm	30.00
301–350 cbm	39.00
351–400 cbm	45.00
For every 50 cbm. more	3.00
Harbor dues, per cbm	0.20
Windbound dues, inside, per cbm	0.05
Windbound dues, outside harbor	0.02½

TONNING.

Vessels can enter this harbor by common tide, with 14 to 16 feet draft, and to Pahlhude with 11 to 12 feet. English vessels lie afloat, discharge in the bay, or at three different harbor quays. In the spring and harvest small ships will get freights with grain, coastwise as well as to England and foreign.

	Marks.
Harbor dues, loaded, ship per cbm	0.05
Harbor dues, in ballast	0.02
Laden ship above 170 cbm.	0.10
Laden ship above 170 cbm., in ballast	0.05
Quay dues for discharging or loading	0.07
Quay dues for discharging and loading	0.15
Pilotage, from April 15 to October 15	0.08
Pilotage, from October 15 to April 15	0.11
Lowest pilotage, summer	8.00
Lowest pilotage, winter	11.00

NORTH, BALTIC, AND WHITE SEA LIGHTS.

11. List of lights on the eastern shores of the North Sea (France, Belgium, Holland, Denmark, Germany, Russia, Sweden, Norway) and in the Baltic and White Seas.

[With latitude, longitude, position, and distance visible. Corrected to August 31, 1888.]

The bearings are magnetic, and are given from seaward.
The given distances from which the lights are visible are calculated for a height of 15 feet above the sea, the elevation of the lights being in all cases taken as above high water.
Fix.: *Fixed*, or steady.
Fl.: *Flashing*. Showing flashes at short intervals, or groups at regular intervals.

Fix. and Fl.: Fixed light, with addition of white or colored flashes, preceded and followed by a short eclipse.

Rev.: Revolving. Light gradually increasing to full effect, then decreasing to eclipse.

Int.: Intermittent; or *Occ.: Occulting.* A light suddenly and totally eclipsed. When light between eclipses visible less than 30 seconds, term occulating applied. When light visible longer than half-minute term intermittent applied.

Alt.: Alternating. Red and white light alternately at equal intervals, without any intervening eclipse.

FRANCE.

Grisnez.—Quarter of a mile south of the cape, latitude 50° 52′ N., longitude 1° 35′ E. Shows three white flashes at intervals of about 3 seconds, followed by an interval of about 12 seconds, in the middle of which will appear a red flash, visible 22 miles.

Calais.—Extremity of west jetty, latitude 50° 58′ N., longitude 1° 50′ E. Fix. red, visible 4 miles, when port is open.

—— Extremity of east jetty. Fix. white, visible 9 miles. *Red* when less than 6½ feet but tide rising; *green* when less than 6½ feet, but tide falling; the fixed *white* indicates depths of from 6½ to 7½ feet, which, varied by groups of *red* and *green* flashes, will indicate more than 7½ feet; no eclipse will take place at or about high water. A bell is sounded when port is accessible.

—— Tower in old fortifications, latitude 50° 58′ N., 1° 51′ E. White, with flash, visible 24 miles.

Walde.—On the sands, ENE. 3 miles from Calais light-house, latitude 51° N., longitude 1° 55′ E. Fl. white and red alternately, visible 10 miles. *Red* 4 seconds, *white* 16 seconds; no eclipse.

Gravelines.—Fort Philippe, east side of entrance, 15° N., longitude 2° 6′ E, Fix. white, visible 15 miles.

—— End of east jetty, latitude 51° 1′ N., longitude 2° 6′ E. Fix. red, visible 4 miles.

—— End of west jetty, Fix. green, visible 4 miles, from 2 hours before high water till 2 hours after.

Dunkerque.—49 feet within west molehead, latitude 51° 3′ N., longitude 2° 21′ E. Fix. *red* when less than 6½ feet, but tide rising; fix. *green* when less than 6½ feet, but tide falling; the fix. *white* indicates depths of from 6½ to 7½ feet, which, varied by groups of *red* and *green* flashes, will indicate more than 7½ feet; no eclipse will take place at or about high water. Visible 9 miles.

—— Extremity of east jetty. Fix. green, visible 4 mile.

—— Between west jetty and old fort of Risban, S. by E. ½ E., 875 yards from the entrance, latitude 51° 3′ N., longitude 2° 22′ E. Fl. white, visible 20 miles.

—— Tour de Heuguenar, SE. 2,406 yards from entrance, latitude 51° 2′ N., longitude 2° 23′ E. Fix. white, visible 10 miles. Shown for the channel between the Tour de Heuguenar and the entrance of the jetties, shows brightest N. by W. ½ W.; to right or left of this will only be visible 5 or 6 miles through an arc of 10° or 12°.

—— *Dyck.*—Light-vessel in 11 fathoms, latitude 51° 3′ N., longitude 2° 18′ E. Fl. white, visible 11 miles. Bell every 3 minutes. Red and black bands, with red cage at masthead.

Snouw.—Light-vessel in 11 fathoms, latitude 51° 4′ N., longitude 2° 12′ E., Fix. red, visible 7 miles. Bell every 3 minutes. Red and black bands, with ball at masthead.

Ruytingen.—Light-vessel in 10 fathoms, latitude 51° 13′ N., longitude 2° 12′ E. Red, revolving every half-minute, visible 11 miles. Vessel red, with mast and ball; bell every 3 minutes.

BELGIUM.

Pannes.—Sand hill, latitude 51° 6′ N., longitude 2° 35′ E. Fix. green, visible 5 miles. Fishing light.

Oost Dunkerque.—Sand hill, latitude 51° 8′ N., longitude 2° 40′ E. Fix. white, visible 5 miles. Fishing light.

Nieuport.—West pier, latitude 51° 9′ N., longitude 2° 43′ E. Fix. green, visible 4 miles, from N. 64° E. to S. 64° W.

—— East pier. Fix. red, visible 5 miles, from N. 80° E. to S. 80° W.

—— West side of port, latitude 51° 8′ N., longitude 2° 44′ E. Fix. white, visible 6 miles, when 12 feet water.

—— Sand hills east of harbor, latitude 51° 9′ N., longitude 2° 44′ E. Fix. red, visible 14 miles, through 216° from N. 53° E. to S. 80° W.

Ostende.—On the east of the harbor, 820 yards E. by S., from the northeast angle of the town, latitude 51° 14′ N., longitude 2° 56′ E. Fix. white, visible 20 miles, between E. by N. ½ N. and SW. by W. ½ W.

—— West pier-head. Fix. green, visible 5 miles.

—— East pier-head. Fix. red, visible 5 miles. Leading light.

—— Battery on East pier. Fix. red, green, and white. *Red* under *green* indicates 6½ feet water at the entrance of dock leading to the Commercial basin; 2 *green* vertical, 7½ feet; 2 *red* vertical, 8 feet; *white* under *red*, 18 feet; *white* under *green*, 19 feet; *green* under *red*, 19½ feet; and 3 vertical, the upper *red*, middle *green*, and the lower white, 20½ feet.

Blankenberge.—Half mile westward of small fort, latitude 51° 19′ N., longitude 3° 7′ E. Fix. white, visible 12 miles.

—— Western harbor mole, latitude 51° 19′ N., longitude 3° 7′ E. Fix. green, visible 4 miles. Fishing light.

Heijst.—North of village, latitude 51° 20′ N., longitude 3° 14′ E. Fix. green, visible 3 miles. Fishing light.

Knocke.—Downs, north of Knocke village, latitude 51° 21′ N., longitude 3° 17′ E. Fix. white, visible 12 miles.

West Hinder.—Light-vessel in 17 fathoms, 7 cables from south end of bank, latitude 51° 22′ N., longitude 2° 27′ E. Rev. two *white* and one *red* flash alternately every half-minute. Bell or siren in fog every 2 minutes. Vessel black, with red streak.

North Hinder.—Light-vessel in 20 fathoms, on east side of bank, latitude 51° 37′ N., longitude 2° 34′ E. White flash every 8 or 10 seconds, visible 11 miles. Bell in fog every 15 minutes, preceded and followed by a gong stroke. Vessel red, two masts, red ball on mainmast.

Wandelaar Bank.—SW. from bank, in 5 fathoms, latitude 51° 22′ N., longitude 3° 1′ E. White flash every 5 seconds, visible 11 miles. Siren or bell in fog. Red with black streak, two red baskets on mast.

Wielingen Channel.—Light-vessel in 5 fathoms, latitude 51° 23′ N., longitude 3° 15′ E. Red flash every half-minute, visible 9 miles. Red and white horizontal belts; red ball at masthead. Siren or bell in fog.

HOLLAND.

SCHELDE RIVERS, ETC.

Nieuwe Sluis.—Kruishoofd mole, latitude 51° 24′ N., longitude 3° 28′ E. Fix. *red* westward of SW. by S. ½ S., and *white* between SW. by S. ½ S. and W. by S. Visible 4 miles.

—— On embankment, latitude 51° 24′ N., longitude 3° 30′ E. Fix. white W. by N. and E. by S., 1,110 yards, visible 11 miles, between W. ½ S. and E. ½ N. Siren in fog every 30 seconds. Also fix. white, visible 14 miles, between SE. by E. ½ E. and E. ½ N.

Westkapelle.—On embankment, latitude 51° 32′ N., longitude 3° 26′ E. Fix. white, visible 13 miles, between S. by W. and NE. by N. Lights in line lead from the Steen deep to the East Gat.

—— Old church tower, latitude 51° 32′ N., longitude 3° 27′ E. Fix. white, visible 20 miles. Obscured westward of S. by W. ½ W. to clear Banjaard banks.

Domburg.—High dune near Domburg, latitude 51° 34′ N., longitude 3° 29′ E. *Red* between SE. and E. by S. ½ S., *white* southward of E. by S. ½ S.

Oosterhoofd.—Sand hills, latitude 51° 35′ N., longitude 3° 34′ E. Fix. red, visible 4 miles.

Zoutelande.—Sand hill, latitude 51° 30′ N., longitude 3° 28′ E. Fix. white, visible 10 miles, between N. and NW. ½ W.

Kaapduinen.—Sand hills, latitude 51° 28′ N., longitude 3° 31′ E. 2 fix. white, SE. by S., 126 yards apart, visible 10 or 12 miles, between S. by E. ½ E. and SE. ½ E.

Flushing or Vlissingen.—West Haven bastion, latitude 51° 26′ N., longitude 3° 34′ E. *Red* in the direction of the Nolle Plaatje. A small *red* and a *green* light mark the entrance to canal east of Flushing. Visible 10 miles. Horn in fog.

—— Harbor moles, 2 fix. green. Red when harbor is inaccessible, and *green* lights not shown. *Green* and *red* indicates a depth of less than 19½ feet.

Breskens.—One on each end of breakwater, latitude 51° 24′ N., longitude 3° 34′ E. 2 fix. white. Siren or horn.

Borsele.—SW. part of island, latitude 51° 25′ N., longitude 3° 44′ E. Fix. white, with *red* sectors between SSE. ½ E. and SE. ½ E. and from N. by E. ½ E. to N. ½ W., visible 9 miles.

Nieuwepolder.—On point, latitude 51° 21′ N., longitude 3° 46′ E. Fix. red, visible from S. ½ W. to SW. ½ W.

Terneuse or Neuzen.—Outer dike, latitude 51° 21′ N., longitude 3° 48′ E. Two fixed white, SE. by S., 459 yards apart, visible 8 and 10 miles. Leading lights.

—— West jetty, latitude 51° 21′ N., longitude 3° 50′ E. Fixed, visible 10 miles, shows *red* when bearing eastward of SE. by E. ½ E. and *white* to the southward of that bearing.

—— Harbor mole heads, 2 fix. white.

Eendragt.—The sea bank, latitude 51° 21′ N., longitude 3° 54′ E. Three fix. white, visible 8 to 10 miles. The east light bears E. ½ S. distant 335 yards, and the west light SW. ½ S. 370 yards from the center light. The center light is visible from the river, through an arc of 180°; the east light from E. by N. ½ N. through E. and S. to S. ½ W.; and the west light from ESE. through S. to SW. by W. ½ W. Center and east lights in line lead in the fairway towards Terneuse, and the center and west lights in line lead in the fairway to the northward.

Baarland.—On point, latitude 51° 24′ N., longitude 3° 54′ E. Shows *red* over Rug van Baarland between red buoy No. 14 and *white* buoy No. 11—indicating that Biezelingsche-Ham leading lights must not be kept in line, but that the high light should be brought open somewhat to the westward of the low light in order to clear the shoal near the white buoy No. 10. Masked from W. by S. ½ S. toW. by S. ½ S. Visible 9 miles.

Hoedekenskerke.—On mole, latitude 51° 25′ N., longitude 3° 55′ E. *Red* sector from N. ½ E. to N. ½ W., *white* from N. ½ W. to NW. by N. Visible 4 miles.

Biezelingsche-Ham.—On point, latitude 51° 26′ N., longitude 3° 55′ E. Fix. white, visible 9 miles, between NE. and SW.

—— N. by E. 590 yards from the above. Fix. white, visible 10 miles, between NE. by N. and N. by W.

Hanswest.—West side of entrance to canal, latitude 51° 26′ N., longitude 4° 1′ E. *Red* southward of ESE., and *white* when eastward of ESE. Visible 9 miles.

Magere Merrie.—NW. ½ W. nearly half mile from Welsoorde Light, latitude 51° 24′ N., longitude 4° 1′ E. Fixed white, with *red* sector over Waards Plaat from S. to W. by N. Visible 8 miles.

Welsoorde.—Eighty-two yards within the end of the dike north of Welsoorde, latitude 51° 24′ N., longitude 4° 2′ E. Fix. white, visible 10 miles; not seen eastward of S. by E. ½ E.

Groenendyk.—On bank; latitude 51° 22″ N., longitude 4° 3′ E. Shows *red* N. of W. by S. and *white* southward of it. W. by N. 756 yards from preceding light. Fix. white, visible from NW. by W. ½ W. to W. ½ S. Visible 8 miles each.

Rilland.—Near the village; latitude 51° 24′ N., longitude 4° 11′ E. Two fixed, S. by E. 220 yards apart, visible 8 miles. The north light is *white*; the south light shows *red* when bearing eastward of north and *white* when bearing westward of north. Obscured between white buoys Nos. 25 and 26 (just below Bath), as a cross mark on the line of Bath leading lights, near the bend of the Hook.

Bath.—In village; latitude 51° 24′ N., longitude 4° 12′ E. Fix. white, visible 8 miles. Also, fixed white and red, W. by. S. ½ S. from preceding light, showing *white* from NE. by E. ½ E. to the north bank of river; is obscured from NE. by E. ½ E. to NNE. ½ E.; *red* from NNE. ½ E. to N. by E. ½ E.; and is obscured eastward of N. by E. ½ E.

Frederik Old Fort.—Latitude 51° 20′ N., longitude 4° 17′ E. Fixed white and red, visible 9 miles. Shows *white* from the east bank of river to E. by S. ½ S.; *red* from E. by S. ½ S. to E. ½ N.; *white* from E. ½ N. to NE. by E.; and *red* from NE. by E. to east bank of river. Fix. white, SSE. ½ E. 194 yards from preceding light; visible 10 miles between S. ½ E. and SE. ½ E.

Doel.—Extremity of jetty; latitude 24° 19′ N., longitude 4° 16′ E. Red between S. ½ W. and S. by W. ½ W., and *white* between S. by W, ½ W. through west to N. ½ E.; visible 8 miles.

Liefkenshoek.—Near landing place of fort; latitude 51° 18′ N., longitude 4° 17′ E. Fix. white; visible 5 miles; *red* from S. by E. to SW.

Kruisschans.—Close to dike; latitude 51° 17′ N., longitude 4° 19′ E. Fix. white, with *red* sector over Meestoof Pass. Visible 5 miles.

Fort Perle.—On dike; latitude 51° 16′ N., longitude 4° 18′ E. Fix. white.

Fort Pipe de Tabac.—Point of Draaiende Sluis; latitude 51° 15 N., longitude 4° 20′ E. Shows *red* downstream between white buoys Nos. 36 and 37, and *red* upstream from NW. ½ N., to south bank of river; from all other directions it is fixed *white.*

Veere.—Kampveer tower, south side of entrance; latitude 51° 33′ N., longitude 3° 40′ E. Fix. white, visible 10 miles, between NW. ½ N. and S. ½ E. Mole heads, 2 fixed green, visible 5 miles.

Sloe (*Wulpenburg*).—Dike south of Middleburg Harbor; latitude 51° 32′ E., longitude 3° 41′ E. Fix. white, visible 4 miles, in the Sloe Sand Creek and entrance to Veere. Red sector in direction of Goudplaat.

Zandkreek.—South side on mole; latitude 51° 33′ N., longitude 3° 55′ E. Fix. white, visible 10 miles.

Wemeldingen.—Jetty, west of canal, latitude 51° 31′ N., longitude 4° 0′ E. Fix. white.

Gorishoek.—North of ferry; latitude 51 32 N., longitude 4° 5′ E. Fix. white, visible 4 miles.

Strijenham.—Sea-wall; latitude 51° 31′ N., longitude 4° 9′ E. Fix. white. Visible 6 miles.

Stavenisse.—Eastern mole head; latitude 51° 36′ N., longitude 4° 0′ E. Fix. white, visible 11 miles.

Zijpe.—On dike; latitude 51° 39′ N., longitude 4° 6′ E. Fix. white, with a *red* sector to the northward. Visible 6 miles.

Bruinisse.—East mole head; latitude 51° 40′ N., longitude 4° 6′ E. Fix. white, visible 2 miles.

Zierikzee.—On dike at Val; latitude 51° 38′ N., longitude 3° 55′ E. Fix. white, *red* when E. of NE. ¼ N., visible 4 miles.

—— West jetty head; latitude 51° 38′ N. longitude 3° 53′ E. Fix. white, visible 5 miles in East Schelde in the road of Zierikzee and entrance of Roompot.

Schouwen Bank.—Light-vessel in 13 fathoms, on inshore edge of bank; latitude 51° 47′ N., longitude 3° 26′ E. Shows three flashes in quick succession every half minute. Visible 11 miles. Vessel red, with white streak and black ball by day. Siren in fog.

Schouwen.—Northwest end of island; latitude 51° 42′ N., longitude 3° 41′ E. Double-flashing white every half minute, visible 20 miles. One mile northeast of preceding light; latitude 51° 43′ N., longitude 3° 42′ E. Fix. white, to guide to anchorage at night, visible 6 miles.

Haamstede.—West of Laagte van Haamstede; latitude 51° 44′ N., longitude 3° 44′ E. Fix. white, visible 6 miles.

Renesse.—On dune northeast of Renesse village; latitude 51° 44′ N., longitude 3° 47′ E. Fix. white, visible 16 miles, between E. ¼ N. and SE. ¼ S. Fixed white and red, E. by S. ¼ S. 850 yards from preceding light, visible 16 miles. Shows *white* between E. ¼ N. and SE. ¼ E., *red* between SE. ¼ E. and SE. ¼ S., *white* between SW. by W. and NW. by W. In one lead into Brouwershaven Gat.

Ossenhoek.—On end of pier; latitude 51° 45′ N., longitude 3° 53′ E. Fixed white, visible 10 miles.

MAAS RIVERS, ETC.

Jan Paulus.—On dune; latitude 51° 50′ N., longitude 3° 53′ E. Fix. white. Obscured W. of SSW. Visible 8 miles.

Yzeren Baak.—On dune; latitude 51° 50′ N., longitude 3° 56′ E. Fix. white, visible 12 miles. Shows *red* between SSE. (easterly) and S. ¼ W.

Scherm.—East Dunes; latitude 51° 50′ N., longitude 3° 57′ E. Fix. white, visible seaward from SE. by E. to S. ¼ E.

Goedereede or Goeree.—Church tower; latitude 51° 49′ N., longitude 3° 59′ E. Fix. white, not visible from NW. to NE. and direction of Brouwershaven, or between E. ¼ N. and E. ¼ S. Dark *red* between WSW. and SW. by W. for navigating North Pampus, visible 18 miles.

Goedereede Harbor.—Near entrance; latitude 51° 50′ N., longitude 4° 1′ E. Two Fix. white, 140 yards apart. In line WSW. serve as leading lights.

Stellendam.—West mole head; latitude 51° 48′ N., longitude 4° 2′ E. Fix. white, visible 6 miles.

Oosternol.—West mole head; latitude, 51° 49′ N., longitude 3° 56′ E. Fix. white, visible from NW. through E. to SSE.

Hellevoetsluis.—West end of harbor; latitude 51° 49′ N., longitude, 4° 8′ E. Fix. white, visible 12 miles. Red between NE. by E. ¼ E. and E. ¼ N. Fog bell. Mouth of Voorne Canal, 2 fixed green, visible 1 mile.

Horned Heads.—Watch-house on dike; latitude 51° 48′ N., longitude 4° 11′ E. Fix. white between SE. ¼ E. and NNE. ¼ E.; red between NNE. ¼ E. and NW. ¼ W. Visible 4 and 2 miles. Fog bell.

Middelharnis.—North jetty; latitude 51° 46′ N., longitude 4° 12′ E. Fix. white, visible 9 miles.

Ooltgensplaat.—Outer slope of mole E. of Prince Frederik fort; latitude 51° 41′ N., longitude 4° 22′ E. One fixed white, visible 6 miles between NNE. through W. to SSW.

Willemstad.—West counterscarp before No. 1 bastion; latitude 51° 42′ N., longitude 4° 26′ E. Fix. white, visible 10 miles.

Strijen-Sas.—West side of port; latitude 51° 43′ N., longitude 4° 35′ E. Fix. white, visible 6 miles. Red in direction of the second red buoy of Overslag.

Moredijk.—West mole head; latitude 51° 42′ N., longitude 4° 37′ E. Fix. white, visible 2 miles.

Dordsche Kil (Dordt Canal).—West side of Kil canal entrance; latitude 51° 43′ N., longitude 4° 37′ E. Fix. white, visible 6 miles.

Willemsdorp.—East side of Kil canal entrance; latitude 51° 44′ N., longitude 4° 38′ E. Two fixed white.

Mallegat.—West point of north entrance, Kil canal; latitude 51° 48′ N., longitude 4° 39′ E. Fix. white, visible 8 miles.

Brielle Harbor.—North mole head; latitude 51° 54′ N., longitude 4° 11′ E. Fix. red and white, visible 4 miles.

Voorne Canal.—Nieuwe Sluis; latitude 51° 53′ N., longitude 4° 15′ E. Two fixed, east *red*, west *blue*.

Noord Nieuwland.—On dike; latitude 51° 56′ N., longitude 4° 14′ E. Two fixed red, visible 6 miles. Leading lights.

Maasluis.— On mole. Fix. white, visible 4 miles. *Temporary light.*

Rozenburg.—East point; latitude 51° 53′ N., longitude 4° 20′ E. Fix. white, visible 8 miles.

Vlaardingen.—North bank of river; latitude 51° 54′ N., longitude 4° 21′ E. Fix. white, visible 4 miles.

Pernis.—South bank of river; latitude 51° 54′ N., longitude 4° 23′ E. Fix. white, visible 1 mile.

Schiedam.—North bank of river; latitude 51° 54 N., longitude 4° 25′ E. Fix. red and white. A *white* light is also shown from the east mole head.

Hook of Holland.—North mole head, latitude 51° 59′ N., longitude 4° 5′ E. Fix. white and red, visible 10 and 4 miles. *Red* from NE. by E. ½ E. to E.

—— South mole 160 yards within red light (A), and on low south shore 800 yards from low light (B), latitude 51° 59′ N., longitude 4° 6′ E. Two fix. white. In line S. by E. ½ E. lead half a cable from north mole until lights C and D are in line.

—— Low or covered mole 153 yards within mole head. Fix. white, visible 8 miles. Obscured from W. by S. ½ S. to SSW. ½ W. to avoid being mistaken for north mole light.

—— North shore of canal (C and D), latitude 51° 58′ N., longitude 4° 7′ E. Two fix. green, SE. by E., 450 yards apart, visible 2½ miles. Leading lights; day and night tidal signals are also shown.

—— High light on Spanjaards sand hill; low light on shore northwest of pavilion (K L), latitude 51° 59′ N., longitude 4° 7′ E. Two fix. red, E. by S. ½ S., 459 yards. Obscured over outer buoy No. 1 red, and when bearing south of SE. by E. ½ E., in order to avoid confusion with the tidal lights. Entering the west Gat, the red lights (K L) in line bearing E. by S. ½ S. lead through the channel until the *green* lights come in line. The high or eastern light is visible seaward between NE. and SW.; the low or western light is visible between NE. and SE. by E. ½ E. (over the position of the outer red buoy).

—— North bank of river, latitude 51° 59′ N., longitude 4° 8′ E. Two fix. white, NNW. ½ W., 750 yards apart, visible 10 miles. Leading lights. Two *red* lights are also exhibited near Krimsloot.

Scheveningen.—Latitude 52° 6′ N., longitude 4° 16′ E. Rev. *red* and *white* alternately, visible 18 miles. Sand hills.

Katwijk-aan-Zee.—Sand hills, south of village, 164 yards from beach, latitude 52° 12′ N., longitude 4° 24′ E. Fix. white, visible 8 miles between SSW. and ENE.; fishing light.

Noordwijk-aan-Zee.—Sand hills, north of village, latitude 52° 15′ N., longitude 4° 26′ E. Fix. white, visible 5 miles, between SSW. and ENE.; fishing light.

Zandvoort.—Northwest of village, latitude 52° 22′ N., longitude 4° 32′ E. Fix. white, visible 6 miles; fishing light.

Ymuiden Harbor.—South head, latitude 52° 28′ N., longitude 4° 33′ E. Fix. green seaward, red towards harbor, visible 2 miles.

—— North head, fix red seaward, green towards harbor, visible 2 miles.

—— On south side of channel, 2 fix. *white*, SE. by E. ½ E., 612 yards apart, visible 18 and 19 miles. Leading lights into harbor; visible from NE. by N. to SW. by S. Tidal signals from low light.

—— North and south cribs. Two fix. white, visible 2 miles.

Egmond-aan-Zee.—Sand hills, west of village, latitude 52° 37′ N., longitude 4° 37′ E. Two Fix. red, SSE. ½ E., 408 yards apart, visible 7 miles, seaward, from N. by E. to SSW.

Zanddijk.—South side of entrance, latitude 52° 53′ N., longitude 4° 43′. Two Fix. white, SE. ½ E., 484 yards apart, visible 6 and 10 miles. The outer buoy of the Schulpe Gat is in line with the two lights which are visible between ESE. and SE. by S.

Falg.—1½ miles SSW. of Kykduin, latitude 52° 55′ N., longitude 4° 43′ E. Green between N. by E. and E. by S., and red on other bearings, and visible 4 miles.

Dirkoomsduin.—Sand hills, 613 yards southwest of Kykduin, latitude 52° 57′ N., longitude 4° 43′ E. Fix. white, visible 12 miles, between ENE. and NE. by N.

Kykduin.—NE. ¼ E. from fort, latitude 52° 57′ N., longitude 4° 44′ E. Fix. white, visible 20 miles.

Nieuwe Diep.—Extremity of Wierhoofd, latitude 52° 58′ N., longitude 4° 47′ E. Fix. white. Inner part of ditto WNW. of village, Fix. red; each light visible 8 miles. Leading lights, NE. and SW., 51 yards apart.

Texel Island.—Schilbols nol and Stuifdijk, south end of island, latitude 53° 1′ N., longitude 4° 46′ E. 2 Fix. white NE., 870 yards apart, visible 8 miles. Leading lights for inner bar of Sculpe Gat.

—— Eijerland, northeast extremity of island, latitude 53° 11′ N., longitude 4° 51′ E. White flash every minute, of 10 seconds' duration, visible 19 miles.

—— Oude Schild, latitude 53° 2′ N., longitude 4° 51′ E. East mole, fix. *white*; west mole, fix. *red*; north side of harbor, fix. *white*. Visible 2, 1, and 4 miles respectively.

Vlieland.—Highest sand hill, east end of island, latitude 53° 18′ N., longitude 5° 4′ E. *White* from E. ¼ N. through north to SW. ¾ W.; *red* from E. ¼ N. to S. by E.; obscured from S. by E. through south to SW. ¾ W. White visible 12 miles, red 2 miles.

Terschelling.—Brandaris tower, near west end of island, latitude 53° 22′ N., longitude 5° 13′ E. Fix. white, visible 22 miles. 436 yards W. ¼ N. from preceding fix. white, visible 8 miles, red 4 miles. *White* from seaward between S. and NE. (on this bearing it leads over the position of Schuitengat black buoy No. 4); and *red* between NE. and NNW.

West Terschelling.—End of west harbor mole, latitude 53° 21′ N., longitude 5° 13′ E. Fix. white, visible 4 miles. On dike, 1.1 miles from preceding light, latitude 53° 22′ N., longitude 5° 14′ E.; fix. white, visible 11 miles. Leading lights in line NE. by E. ¼ E.

Terschelling Bank.—Light vessel in 15 fathoms, latitude 53° 27′ N., longitude 4° 51′ E. Fl. white, every 5 seconds, visible 11 miles; riding light shown. *Red* at each end when out of position. Siren in fog vessel red, with white streak; black ball at masthead.

Ameland.—Westernmost sand hill, latitude 53° 26′ N., longitude 5° 37′ E. Fix. white, visible 12 miles, between SW. by W., through east and NW. by N.; chiefly for the guidance of fishing vessels.

—— Northwest end of island, latitude 53° 27′ N., longitude 5° 37′ E. Fl. white, three every half minute visible 20 miles.

Schiermonnik-Oog.—On sand hills, west part of island, latitude 53° 29′ N., longitude 6° 9′ E. Two fix. white, SE. by S., 1,102 yards, visible 16 and 18 miles. North light visible seaward from WSW. to ESE.; the south light from WSW. to N.

ZUIDER-ZEE.

Wieringen.—Near west end of island, latitude 52° 53′ N., longitude 4° 56′ E. Two fix. white, visible 4 and 10 miles. Leading lights, N. by W., 462 yards apart.

Kolhorn.—Latitude 52° 48′ N., longitude 4° 55′ E. Two fix. *red* and *white*, in line lead in middle of entrance.

Medemblik.—North mole head, latitude 52° 46′ N., longitude 5° 7′ E. Fix. white, visible 6 miles.

Ven Hoek.—Angle of dike, latitude 52° 45′ N., longitude 5° 17′ E. *White* between SE. ¼ E. through south and west to N. by E. ¼ E. *Red* sector from N. by E. to N. ¾ W., visible 10 miles.

Enkhuizen.—West harbor head, latitude 52° 42′ N., longitude 5° 17′ E. Fix. white, visible 6 miles. Fix. red on wall on east side harbor, visible 3 miles. Leading lights in line E. by N. ¾ N. A fix. white light is also shown on the northern mole head, visible 6 miles.

Broekerhaven.—End of south jetty, latitude 52° 41′ N., longitude 5° 15′ E. Fix. white, visible 2 miles.

Leekerhoek.—Angle of dike, latitude 52° 38′ N., longitude 5° 12′ E. Fix. white, visible 6 miles.

Hoorn.—West mole, latitude 52° 38′ N., longitude 5° 4′ E. Fix. white, visible 2 miles.

Edam.—North mole end, latitude 52° 31′ N., longitude 5° 4′ E. Fix. white, visible 4 miles.

Vollendam.—East mole, latitude 52° 30′ N., longitude 5° 5′ E. Fix. white; fishing light.

Goud Zee.—In channel, northwest of Marken, latitude 52° 28′ N., longitude 5° 5′ E. Fix. white. Fishing light.

Marken.—East point of island, latitude 52° 28′ N., longitude 5° 8′ E. Fix. white, visible 10 miles. Bell in fog.

Pampus.—Fort building, latitude 52° 22′ N., longitude 5° 7′ E. Three fix. white.

Hoek.—North side of Y., river entrance, latitude 52° 22′ N., longitude 5° 1′. Fix. white, visible 10 miles. Bell in fog.

Muiden.—West mole, latitude 52° 20′ N., longitude 5° 4′ E. Two fixed; outer white, inner red, visible 4 and 2 miles. The outer light shows *red* to the eastward over three points of the compass.

Huizen.—West jetty, latitude 52° 19′ N., longitude 5° 15′ E. Fix. white with red sector, visible 4 miles. *Red* from WNW. to WSW.; shown during winter.

Eem.—West side of entrance, latitude 52° 16′ N., longitude 5° 20′ E. Fix. white; fishing light.

Spakenburg.—West mole, latitude 52° 15′ N., longitude 5° 23′ E. Fix. white.

Nijkerk.—Entrance of haven, latitude 52° 15′ N., longitude 5° 28′ E. Two fix. white, visible 2 miles. Leading lights in line SW. by S., 20 yards apart. In entering pass between the lights.

Harderwijk.—South side of entrance, latitude 52° 21′ N., longitude 5° 37′ E. Fix. red, visible 12 miles between NNE. ½ E. through east and south to SW. by W. ½ W.

Elburg.—West jetty and tower of gate, latitude 52° 27′ N., longitude 5° 50′ E. Two fix. white, visible 4 miles each.

Ketel.—South point of entrance of Ijssel, latitude 52° 35′ N., longitude 5° 50′ E. Two fix. white ENE., 44 yards apart, visible 4 miles. In line lead in between the jettys and for 1½ miles up to entrance of Ijssel.

—— End of south jetty, latitude 52° 35′ N., longitude 5° 47′ E. Fix. red to seaward. Bell in fog.

Schokland.—North end south points of island, latitude 52° 39′ N., longitude 5° 47′ E. Two fix. white, visible 12 and 8 miles. The north light is *white* between NE. and SE., *red* between SE. and SW., and *white* between SW. and NW.; the south light is not visible between S. by W. ½ W. and SSW. ½ W. A pilot station. Bell gives thirty-five to thirty-six strokes per minute in fog.

Urk.—SW. point of island, latitude 52° 40′ N., longitude 5° 35′ E. White flash every minute, visible 15 miles.

—— South of island, at Westhavenhoofd, latitude 52° 40′ N., longitude 5° 35′ E. Two fix. red and white. *Red* light on the extremity of west harbor mole. Visible 2 miles.

Ganzen Diep.—West side of haven, latitude 52° 37′ N., longitude 5° 57′ E. Two fix. white; leading lights into haven.

Kraggenburg.—South mole head, latitude 52° 39′ N., longitude 5° 56′ E. Fix. white. A *red* danger light. Fog bell.

Blokzijl.—End of north jetty, latitude 52° 43′ N., longitude 5° 56′ E. Fix. white.

Kuinre.—West harbor mole, latitude 52° 47′ N., longitude 5° 49′ E. Two fixed, outer light *green* on mole head; inner *white* 219 yards from outer. Visible 1 and 6 miles.

Lemmer.—West harbor mole, latitude 52° 50′ N., longitude 5° 43′ E. Two fix. white, visible 1 to 6 miles. In line lead into entrance.

Stavoren.—Northwest side of harbor, latitude 52° 53′ N., longitude 5° 21′ E. Fix. white, visible 12 miles. North harbor mole, green, visible 4 miles. South harbor mole, red. The red and inner white light in one clears the rocks off the harbor marked by a red buoy.

Hindeloopen.—West side of entrance, latitude 52° 57′ N., longitude 5° 24′ E. Fix. white.

Workum.—South side of entrance and north jetty, latitude 52° 58′ N., longitude 5° 25′ E. Two fix. white, NNW. and SSE. 195 yards; in line lead into entrance of haven.

Surig.—Outer dike, west of village, latitude 53° 7′ N., longitude 5° 23′ E. Two white, visible 5 miles. NE. ¼ N., 170 yards apart.

Harlingen.—Town rampart and north mole, latitude 53° 10′ N., longitude 5° 24′ E. Two fix. white, visible 10 miles; in line lead southward of the dam through Pollen Channel. Mole heads, 2 fix., *red* on north mole and *green* on south mole.

NORTH SEA—GERMANY.

[The light vessels are liable to be driven from their stations by ice, but are replaced as soon as circumstances allow.]

Borkum Flat.—Light vessel in about 13 fathoms, N. by W., 18 miles from Borkum light-house, latitude 53° 49′ N., longitude 6° 17′ E. Three fix., visible 8 miles; the light on the mainmast is *red*, the other two are *white*, and a riding light at the forestay. Three masts: black globes on the fore and mizzen masts, and a cage on the mainmast. Fog-horn gives a blast of 5 seconds every minute.

Borkum Island.—At Westland, latitude 53° 35′ N., longitude 6° 40′ E. Fix. and flashing white every 2 minutes, visible 21 miles. At a distance of 14 to 16 miles a faint continuous light is seen.

Delfzyl (*Holland*).—On north mole, latitude 53° 20′ N., longitude 6° 56′ E. Two fix. red, visible 3 miles.

—— Inner harbor, fix. red and green.

Knock.—On dike, latitude 53° 20′ N., longitude 7° 3′ E. Fix. white, visible 6 miles, between S. 14° E., through east and north, and N. 74° W.

Termunterzyl (*Holland*).—West mole, latitude 53° 18′ N., longitude 7° 2′ E. Fix. white, visible 2 miles.

Norderney.—On island, latitude 53° 43′ N., longitude 7° 13′ E. White flashing every 10 seconds, visible 20 miles.

Wangeroog.—Near E. part of island, latitude 53° 47′ N., longitude 7° 54′ E. White flashing every minute, visible 12 miles. Fog-siren, 560 yards NNW. of light-house, two blasts every 2 minutes.

Aussen Jahde.—Light-vessel, near the northwest end of the Minsener Sand in 8 fathoms, latitude 53° 49′ N., longitude 8° 3′ E. Two fix. white, visible 9 miles. Vessel red, three masts, with black balls on fore and main masts. Bell in fog.

Minsener Sand.—Light-vessel in 9 fathoms, southeastward of Minsener Sand, latitude 53° 47′ N., longitude 8° 5′ E. Fix. red. Vessel red, three masts, with ball at main mast. Fog bell.

Schillighorn.—Within the dike, latitude 53° 42′ N., longitude 8° 2′ E. Two fixed, visible 12 and 9 miles. Upper light *red*, visible between S. 9° W. and S. 52° W. from a distance of 12 miles, and between S. 52° W. and N. 31° W., from a distance of 9 miles. Lower light *white*, visible between N. 25° W. and N. 31° W., from a distance of 11 miles. This light is only visible in the fairway of the channel.

Hook Siel.—Near canal entrance, latitude 53° 38′ N., longitude 8° 2′ E. Fix. white, visible 6 miles, between WSW. and WNW., indicating anchorage.

Genius Bank.—Light-vessel in 29 feet, southeast extreme of bank, latitude 53° 35′ N., longitude 8° 11′ E. Fix. white, visible 8 miles. Vessel red, one mast, black globe. Fog bell every 3 minutes.

Wilhelmshaven.—North mole, latitude 53° 31′ N., longitude 8° 9′ E. Fix. green. South mole, fix. red, visible 3 miles.

Vareler Siel.—On dike, latitude 53° 25′ N., longitude 8° 11′ E. Fl. white, with sectors, visible 13 miles. In the western sector, between S. 39° E. and S. 13° W., there will be exhibited two flashes of 1 second duration each, each pair of flashes being followed by an eclipse of 4 seconds. In the eastern sector, between S. 16½° W. and S. 69° W., there will be exhibited five flashes of 1 second duration each, each group of flashes being followed by an eclipse of 8 seconds. In same tower, fix. white, visible 13 miles; seen only in the channel between S. 12° W. and S. 15½° W.

Weser.—Light-vessel in 12 fathoms, latitude 53° 54′ N., longitude 7° 49′ E. Three fix. white, visible 8 miles. A riding shown on the fore-stay 6 feet above the rail. Horn and bell in fog. Red, three masts.

Rother Sand.—On sand in 23 feet, latitude 53° 51′ N., longitude 8° 5′ E. Two fixed and flashing, visible 10 and 8 miles. The principal light is visible between S. 54½° E., through E., and N. 32½° W.; it shows a fixed *white* light from S. 61½° E. to S. 68½° E., and from N. 22½° W. to N. 26½° W. Between these two sectors, that is, from S. 68½° E., through E. and N., to N. 22½° W., it shows a flashing *white* light, with successive flashes at regular intervals; but outside the two sectors of fixed white light—from S. 54½° E. to S. 61½° E. and from N. 26½° W. to N. 32½° W. it shows a flashing *white* light, with two flashes in quick succession. This light is intended to guide vessels into the Neue Weser.

A secondary light in the northeast balcony of the light-house shows a fixed *white* light from S. 11½° E., through S., to S. 54½° W. Is intended to guide vessels into the Alte Weser.

Also, two direction lights, one in the northwest balcony, the other in the south balcony. The northwest direction light shows a fixed *white* light from S. 54½° E., through E., to S. 89½° E. The southern direction light shows a fixed *white* light from N. 14½° W. to N. 32½° W. These lights, elevated 62 feet above the sea, are not distinctly seen with the naked eye beyond a distance of 2 to 2½ miles; when these lights come in sight they mark the positions in which vessels should steer from one direction light to the other. Bell in fog.

Vessels of heavy draft, when within the fixed lights, should not approach the light-house nearer than 1½ miles to avoid the Rother Sand, and which afterwards should not be passed within the distance of at least 5 cables. Vessels showing their national flag and distinctive signals are telegraphed from the light-house to Bremerhaven and Bremen.

Bremen.—Light-vessel in 9 fathoms, entrance of river, latitude 53° 48′ N., longitude 8° 8′ E. Fix. white, visible 10 miles; shown from February to November. Bell and gun in fog. Two masts with a ball.

Hoke Weg Flat.—Northeast part, latitude 53° 43′ N., longitude 8° 15′ E. Fix. white, visible 16 miles; not visible between NE. ¼ E. and E. ¼ N. Fix. white and red in same tower, visible 6 miles. White from SSE. to WSW., red ray in WSW. direction.

Eversand.—On sand, latitude 53° 45′ N., longitude 8° 21′ E. Two fix. white, S. 19½ E., 1,312 yards apart, visible 11 miles. High light visible from N. 50½° E., through N., to N. 26½° W.; the low light from N. 1½° E., through N., to N. 29½° W. Bell in fog twice and four times respectively.

Meyers Ledge.—On sand, latitude 53° 43′ N., longitude 8° 24′ E. White, visible 9 miles. Shows fixed from S. 70½° E. to S. 76½° E.; flashing from S. 75½° E. to S. 64½° E.; flashing from S. 76½° E. to S. 87½° E., and fixed from S. 87½° E. to N. 82½° E. Bell in fog sounds seven times, with short intervals.

Salzhorn.—On embankment, latitude 53° 51′ N., longitude 8° 29′ E. Shows white from S. 89½° E. to N. 70½° E.; red from S. 77½° E. to S. 89½° E.; and again red from N. 70½° E. to N. 57½° E. Visible 7 miles.

Bremerhaven.—Brinkamahof Fort, latitude 53° 35′ N., longitude 8° 32′ E. Fixed white, visible 4 miles, between SE. by S., through E., and NW. by N.

—— Entrance to docks, latitude 53° 33′ N., longitude 8° 34′ E. Fixed white, visible 10 miles.

—— Slope of seawall westward of Kaiser Harbor, N. 20° W., 1,197 yards from main light. Fixed white, visible 11 miles. In line with main light leads through Wremen eastern channel.

—— Geestemunde, latitude 53° 32′ N., longitude 8° 34′ E. Fixed red, visible 6 miles. Lifeboat station.

—— Geestemunde. Fixed green, visible 4 miles; in one with preceding red light indicates entrance.

Heligoland.—Summit of island, latitude 54° 11′ N., longitude 7° 53′ E. Fix. white, visible 20 miles. Rocket in fog.

—— On the steps midway between lower and uppertowns. Fix. red; fishing light.

RIVER ELBE.

[The light-vessels in the Elbe River exhibit, when in position, a white riding light at a height of 6 feet above the rail.]

Outer Elbe (*No.* 1).—Light-vessel in 12 fathoms, entrance of river, latitude 54° N., longitude 8° 15′ E. White flash every 20 seconds, visible 8 miles. Vessel red, three masts; black ball at main. Gun and bell.

Loots Galliot.—Pilot vessel in 10 fathoms, 4½ miles ESE. from outer light-vessel, latitude 54° N., longitude 8° 23′ E. Two fixed, *white* on forestay, *red* on mizzen mast, visible 3 miles. Lies at anchor between the floating lights; in gales, a station is taken between light-vessels Nos. 2 and 3. A flag is hoisted when pilots are on board. A vane, 18 feet long, at the main.

Middle (*No.* 2).—Light-vessel in 12½ fathoms, 5¼ miles from No. 1, latitude 53° 59′ N., longitude 8° 25′ E. Two fix. white on main mast, visible 8 and 6 miles. Red, three masts, two black globes vertical on main.

Inner (*No.* 3).—Light-vessel in 6½ fathoms, mid-channel, 4½ miles from No. 2, latitude 53° 58′ N., longitude 8° 31′ E. Fix. white, visible 8 miles. Pilot station. Three masts, black globe on main. Fog bell.

No. 4.—Light-vessel in 10 fathoms, below Cuxhaven, latitude 53° 55′ N., longitude 8° 40′ E. Fix. white, visible 6 miles. Lies between northern channel and new channel near Kugel beacon. Vessel red, three masts, black wicker ball on main mast. Bell in fog.

Neuwerk.—On the island, south side of river, latitude 53° 55′ N., longitude 8° 30′ E. Fix. white, visible 15 miles.

Kugel Baake.—West of the beacon, latitude 53° 53′ N., longitude 8° 41′ E. Fix. white, visible 8 miles. This light shows from *black* buoy J to *black* buoy L. Only when Elbe Light-vessel No. 4 is not at her station.

Cuxhaven.—West side of entrance, latitude 53° 52′ N., longitude 8° 42′ E. Fix. and fl. white, every minute, visible 12 miles; also fix. white in same tower. Lower light visible between S. ⅓° E. and S. ½° W.; shows as a flashing light below black buoy L, and fixed above the buoy. Lifeboat station.

—— West pier, latitude 53° 52′ N., longitude 8° 43′ E. Fix. red and white, visible 3 miles; the *white* light seen indicates the entrance of the harbor.

Attenbruch.—Latitude 53° 50′ N., longitude 8° 47′ E. Occ. white, visible 8 miles. Visible 20 seconds, eclipsed 10 seconds.

Ottendorf.—On breakwater, latitude 53° 50′ N., longitude 8° 50′ E. Two fix. white, vertical. Upper light visible from S. 72° W. to S. 86° W.; lower light visible from S. 72° W. to S. 76° W., and from S. 83° W. to S. 86° W.

Brunsbuttel.—Latitude 53° 53′ N., longitude 9° 6′ E. Down the river shows fixed for 25 seconds and eclipsed for 5 seconds; up river the light is fixed. Visible for 8 miles.

Bosch.—On pilot-station house, latitude 53° 54′ N., longitude 9° 14′ E. Fix. white, visible 4 miles; when free from ice.

Schelenkulen.—Sea wall near Schelenkulen, latitude 53° 53′ N., longitude 9° 16° E. Fix. red and green; *red* down the river to indicate channel as far as red buoy; *green* up the river.

Stör.—Entrance of the river Stör, on the north pier, latitude 53° 49′ N., longitude 9° 24′ E. Fix. white, visible 5 miles.

Gluckstadt.—North pier, entrance to the port, latitude 53° 47′ N., longitude 9° 24′ E. Fix. white, with red sector, visible 10 and 6 miles. Red sector between NE. by E. and E. by S. ½ S.

Elsfleth.—On stone dam, latitude 53° 44′ N., longitude 9° 27′ E. Fix. white, visible 3 miles, between black buoy No. 18 and white buoy No. 13.

Kraut Sand.—Light-vessel in 13 feet, latitude 53° 42′ N., longitude 9° 29′ E. Fix. white, visible 5 miles. Red ball at masthead. Gong in fog.

Pagensand.—On north end, latitude 53° 42′ N., longitude 9° 30′ E. Two fix. white and red, visible 5 miles. Upper light *red* in Pagensand channel; *white* in other directions. Lower light *white*, between white buoys 13 and 13 to 14.

Brunshausen.—Entrance of river, latitude 53° 37′ N., longitude 9° 31′ E. Fix. white, visible 9 miles.

Juel.—On north west point of Juel sand, latitude 53° 37 N., longitude 9° 33 E. Fix. white, visible 6 miles.

Schulau.—Light-vessel, south side of channel near Scülpsand, latitude 53° 34′ N., longitude 9° 40′ E. Fix. white, visible 5 miles. Red, black ball at masthead. Going in fog.

—— 200 yards northwest of harbor, latitude 53° 34′ N., longitude 9° 42′ E. Fix. white, with *red* sector between white buoy No. 2, and black buoy No. 8.

Este River.—At mouth, on right bank, latitude 53° 32′ N., longitude 9° 48′ E. Fix. red, visible from NE. through south to SW.

Finkenwarder.—On islet, latitude 53° 32′ N., longitude 9° 53′ E. Fix. red. Illuminates up stream the whole breadth of the channel to the Mühlenfluth sand.

Hamburg.—West corner of Sandthor quay. Fix. red in the direction of Ostergatt, and green towards Sandthor Harbor. Grasbrok Harbor, fix. green to indicate entrance. Western Duc d'Alben, one fix. green.

Busum.—On the dike westward of harbor sluice, latitude 54° 8′ N., longitude 8° 52′ E. Fix. white, visible 5 miles.

NORTH SEA.—GERMANY.

Outer Eider.—Light-vessel in 7 fathoms, latitude 54° 16′ N., longitude 8° 17′ E. Fix. white, visible 8 miles. Within 1 mile the lights may appear as two. Vessel red, three masts with balls. Siren or bell in fog.

Inner Eider.—Light-vessel, latitude 54° 14′ N., longitude 8° 36′ E. Fix. white, visible 10 miles. Usually removed in winter months. Vessel red with a white line; a ball at the fore. Gun and bell in fog.

Vollerwick.—On embankment, latitude 54° 17′ N., longitude 8° 47′ E. Two fix. white, visible 4 miles. In line lead in midchannel. Not lighted when navigation is stopped by ice.

Kating Siel.—On embankment, latitude 54° 17′ N., longitude 8° 48′ E. Two fix. white; in line lead in midchannel.

Tonning.—On embankment, latitude 54° 19′ N., longitude 8° 57′ E. Two fix. white. visible 4 miles; in line lead through Purren strōm. Not lighted when navigation is stopped by ice.

Amrum Island.—Summit, latitude 54° 38′ N., longitude 8° 21′ E. Fl. white, every 20 seconds, visible 21 miles.

—— 1,968 yards ESE. from main light, fix. white, visible through an arc of 90°.

Wyk.—Southeast side of Fohr Island, latitude 54° 41′ N., longitude 8° 34′ E. Two fix. white, visible 4 miles; in line lead into harbor. Lifeboat station.

Dagebull.—On landing pier, latitude 54° 44′ N., longitude 8° 42′ E. Two fix. red and white, ESE. and WNW., 87 yards apart, visible 8 miles; *red* to northward, *white* to westward and southward.

Hoyer.—Water-gate, latitude 54° 57′ N., longitude 8° 41′ E. Fix. red. Friedrichen Koog, fix. white, visible 6 and 8 miles from E. by S. to SSE.

Sylt.—Rōde Klif, near Brōns hill and village of Kampen, latitude 54° 57′ N., longitude 8° 20′ E. Fix. white, with flash every 4 minutes, visible 20 miles. From Lister deep between the bearings of S. by W. ½ W. and SW. ½ W. it is of a reddish color.

—— South side of landing pier, Munkmarsch Harbor, latitude 54° 55′ N., longitude 8° 22′ E. Two fix. white and red, visible 6 miles. Leading lights; visible between Lister Ley and Wester Ley; the southern light *red*, is visible between the east coast of Sylt Island and the bearing W. by S.

—— Albue head, west light, near northern extreme of island, latitude 55° 3′ N., longitude 8° 24′ E. Fix. white, with *red* sector towards entrance, visible 10 miles. East light, SE. by E. ½ E. 1¼ miles from west light. Fix. white, visible 12 miles. In line lead over the bar in 16 feet at low water.

NORTH SEA.—DENMARK.

NOTE.—All the Danish light-vessels are painted red, with a white cross; within is the name of the station; a *red* ball is shown from the foremast. When not in position will show a blue flag with a white square in the center at aftermost masthead. The light-vessels are kept in their stations as long as the ice permits, and when forced to leave, return as soon as circumstances will allow. A white riding light is exhibited from the forestay of each vessel, 6 feet above the rail.

Seding Strand.—Low light near the beach; high light on sand hill, latitude 55° 30′ N., longitude 8° 24′ E. Two fix. white, E. by N. ½ N., 700 yards apart, visible 11 and 14 miles. Leading lights for Graa Deep. Low light visible through an arc of 9° on either side of E. by N. ½ N.; high, from NNE. ½ E. to E. ½ N.

Esbjerg Harbor.—On jetties, latitude 55° 28′ N., longitude 8° 27′ E. Two fix. white, SE. ½ S., 315 yards apart, visible 9 miles. Leading lights for harbor, seen through an arc of 9° on either side of SE. ½ S. Two *red* leading lights are also shown to lead into the outer harbor.

—— North and South moles, fix. green and white, visible 3 miles, from S. 19° W. through E. to N. 51° W.

Nordby.—End of harbor pier, latitude 55° 27′ N., longitude 8° 25′ E. Fix. white. From September 1 to June 1.

Pakhus Point.—Eight hundred and twenty-four yards northward of Nordby pier, latitude 55° 27′ N., longitude 8° 25′ E. Fix. green, red, and white, visible 3 miles. From September to June.

Vyl Shoal.—Light-vessel in 12 fathoms, latitude 55° 24′ N., longitude 7° 45′ E. Double Fl. white, every half minute. Siren.

Blaavand.—On Point, latitude 55° 33′ N., longitude 8° 5′ E. Occ. white, visible 15 miles, between S. 32° W., through S., and N. 36° W.

Horn Reefs.—Light-vessel on west extreme in 18 fathoms, latitude 55° 34′ N., longitude 7° 19′ E. Fl. white, every half minute, visible 10 miles. Siren in fog, one blast every 2 minutes.

Bovbjerg.—Sand hill, latitude 56° 31′ N., longitude 8° 7′ E. Fix. white, visible 20 miles.

Ron Channel.—Pilot and light-vessel, inner part of channel, latitude 56° 43′ N., longitude 8° 14′ E. Fix. red visible 6 miles; shown from March 20 to November 15. Pilot station.

Lem Vig.—West side of sound, latitude 56° 35′ N., longitude 8° 16′ E. Two fix. red, when steamers are due.

Glyngore Harbor.—East and west mole heads, latitude 56° 45′ N., longitude 8° 52′ E. Two fix., red on east mole and green on west mole, visible from east to west. Two *red* leading lights shown when required.

Or Point.—Near extreme, latitude 56° 47′ N., longitude 8° 52′ E. Fix. white, visible 5 miles. August to May. Fog bell.

Lodberg.—Northward of Agger, latitude 56° 49′ N., longitude 8° 16′ E. Fl. white, every 20 seconds, visible 18 miles.

Thisted.—South mole head, latitude 56° 57′ N., longitude 8° 42′ E. Fix. red, visible 2 miles. Leading lights. A fixed *green* is also shown on east mole head. Harbor office, fix. green.

Liim Fiord.—Frederic VII. Canal, western entrance, on north mole head, latitude 56° 56′ N., longitude 9° 12′ E. Fix. red, from August 15 to April 30.

Klitmoller.—Low light 40 yards from shore, latitude 57° 2′ N., longitude 8° 30′ E. Two fix. red, SSE. ½ E. 60 yards, visible 6 miles; fishing lights, from March 15 to November 15.

Hanstholm.—Northwest point of Jutland, latitude 57° 7′ N., longitude 8° 36′ E. Rev. white, every half minute, visible 20 miles. A lifeboat and rocket station.

Hirtshals.—On point, latitude 57° 35′ N., longitude 9° 57′ E. Fix. white, with flash, visible 20 miles, between ENE. through south and west, to WNW. Trumpet in fog gives two blasts every 2 minutes.

DAY.—Signals will be made from a mast with yard 66 yards westward of the light-house. First, a globe on the mast above the yard, when Trindelen light-

vessel is not at her station. Second, two globes at the eastern yardarm, when Kobbergrund light-vessel is not at her station. Third, a globe at the quarter of the eastern yard, when Knoben light-vessel is not at her station. Fourth, two globes at the western yardarm, when Læso light-vessel is not at her station. Fifth, a globe at the quarter of the western yard, when Skagen light-vessel is not at her station.

NIGHT.—From an auxiliary light on the northwest side of Hirtshals light-house, elevated 137 feet above the sea, there will be exhibited: First, a *red* light, when Læso light-vessel is not at her station. Second, a *green* light, when Trindelen light-vessel is not at her station. Third, a *white* light, when Læso and Trindelen light-vessels are not at their stations. The light will be shown in a northwesterly direction, through an arc of about 60°; the white light should be visible in clear weather from a distance of 9 miles; the colored lights, 5 miles. When a white or green light is shown, thereby indicating that Trindelen light-vessel is not at her station, it is probable that Kobbergrund light-vessel is also not in position, as this vessel is generally withdrawn earlier than Trindelen light-vessel; in this case Knoben light-vessel will probably have been withdrawn, and the auxiliary light from Anholt light-house will then be shown. Further information as to the light-vessels in the Kattegat may be obtained by exchanging signals with the semaphore at Hirtshals.

KATTEGAT AND BELTS, DENMARK.

Skagen or Skaw.—At two-thirds of a mile to west of extreme north point of Jutland, latitude 57° 44′ N, longitude 10° 38′ E. Fix. white, visible 18 miles. Between E. by N., through south to NE. by N., the light is very brilliant; less so on the other points of the compass. Signals are made at the old Skagen light-house, 1,700 yards W. by S. from present light-house. One ball at masthead signifies the Trindelen light vessel is not in station; two balls below the east yardarm that the Kobbergrund light vessel is not in station; one ball below the quarter of the yard on the east side that the Knoben is not in station; two balls below west yardarm that the Læso is not in station. At night, from an auxiliary station on the northern side of the new light-house, 62 feet above the sea, a *red* light signifies that the Læso channel light vessel is not in her station; a *green* light that the Trindelen light vessel is not in her station; a *white* light that neither of these vessels are at their stations. The auxiliary white light is visible about 9 miles, and the colored lights about five miles in a northerly direction.

Skaw reef.—Light vessel in 20 fathoms, at end of reef, N. 71° E. 3½ miles from Skaw light-house, latitude 57° 46′ N., longitude 10° 43′ E. Red flash every half minute. Trumpet in fog, blast every 2 minutes.

Aalbek.—On beach, latitude 57° 36′ N., longitude 10° 25′ E. Two fix. red, 14 yards apart, visible 2 miles. Shown from 1st September to 1st May; fishing light.

Hirtsholm.—Northeast point of south island, latitude 57° 29′ N., longitude 10° 37′ E. Three flashes of white every half-minute; between the groups of flashes, a fix. white is visible between N. 18½° E., and N. 24° E.; and a fix. red from N. 24° E. to N. 29½° E. Visible 15 miles. Pilot station.

Frederikshavn or Fladstrand.—South pier head, latitude 57° 26′ N., longitude 10° 33′ E. Two fix. red and white, visible 4 and 6 miles. Gong in fog.

—— near entrance. Two fix. green; temporary leading lights, 100 feet apart, will be altered as mole progresses. Not shown from 1st May to 1st August.

Læso Trindelen.—Light vessel in 7 fathoms, ESE., half a mile from the Trindelen ground, latitude 57° 25′ N., longitude 11° 16′ E. White, with flash every half minute, visible 9 miles. Siren or gong in fog.

Nolh Ronner.—On reef, latitude 57° 22′ N., longitude 10° 56′ E. Fix. white with red flash every minute, visible 12 miles. A siren gives two blasts every 2 minutes in a fog.

Læso.—New harbor, southern mole, latitude 57° 18′ N., longitude 10° 56′ E. Fix., visible 4 miles.

Læso Channel.—Light vessel in 10 fathoms, eastward of Dvale ground, latitude 57° 13′ N. longitude 10° 42′ E. Flash, white, every 12 seconds, visible 10 miles. In fog, a siren will give one blast every 2 minutes.

Entrance of Liim Fiord.—Egense Kloster, on point, latitude 56° 59′ N., longitude 10° 18′ E. Fix. white, NW. ¾ W., 146 yards apart, visible 9 miles, from NNE., through west, to SW. by S.

—— Hals pier. Fix. green, white, and red, visible 4 miles.

Kobber Grund.—Light vessel, in 10 fathoms, E. of reef, latitude 57° 9′ N., longitude 11° 23′ E. Fix. white, visible 10 miles.

Anholt Island.—About 1½ miles from the east point of island, latitude 56° 44′ N., longitude 11° 39′ E. Fl. white, every 20 seconds, visible 17 miles. A fixed light, 57 feet below the principal light, visible 10 miles, is shown from the east side of the tower when the light vessel is not in her station.

Anholt Knob.—Light vessel in 16 fathoms, about a mile east of Knob Reef, latitude 56° 45′ N., longitude 11° 51′ E. Fl. white, visible 10 miles; shows two flashes in quick succession every minute. Siren in fog.

Fornæs.—On point, latitude 56° 27′ N., longitude 10° 58′ E. Fl. white, every half-minute, visible 13 miles. A white flag with a blue perpendicular stripe is hoisted when ice impedes navigation in the Great Belt.

Grenaa.—South mole of harbor, latitude 56° 25′ N., longitude 10° 55′ E. Fix. red.

Schultz Ground.—Light vessel, southwest part of bank, in 15 fathoms, latitude 56° 9′ N., longitude 11° 11′ E. Fl. white, every half minute, visible 10 miles; from 1st March to 31st December. Horn in fog.

Lyse Ground.—Shoalest part, latitude 56° 18′ N., longitude 11° 47′ E. *Intended.*

Hesselo.—Northeast point of island, latitude 56° 12′ N., longitude 11° 43′ E. Fix. white, visible 16 miles.

Spotsbierg.—Ise Fiord, east side of entrance, latitude 55° 59′ N., longitude 11° 52′ E. Fl. white, every half-minute, visible 11 miles, between NE. by E. through south to WNW.

Hielm Island.—On summit, latitude 56° 8′ N., longitude 10° 48′ E. Fix. white, with flash, visible 19 miles. A white flag with a blue vertical stripe is hoisted when ice impedes the navigation in the Great Belt.

Sletterhage.—Southwest extreme of Helgancæs, latitude 56° 6′ N., longitude 10° 31′ E. Fix. white, visible 11 miles.

Ebeltofte.—At head of bay, latitude 56° 14′ N., longitude 10° 37′ E. 2 Fix. white and red, 650 yards apart, visible 15 and 10 miles. Leading lights N. 10° E.; lead well eastward of Skadegrund and just westward of Sandhagen. Low light, *white* from north to N. 18° E., *red* from N. 20° E. to N. 23° E.; high light visible through an arc between Halgencæs and Alhagen.

—— On hill and on head of western harbor mole, 2 fix. red. E. by S. ¼ S., 464 yards apart.

KATTEGAT, SWEDEN.

Tylo.—West end of islet, latitude 56° 39′ N., longitude 12° 43′ E. Flash. white, every 10 seconds, visible 12 miles. Obscured eastward of a NW. by W. bearing.

Halmstad.—West pier head, latitude 56° 39′ N., longitude 12° 51′ E. Fix. red, visible 4 miles, light not accessible in stormy weather, and not shown in June and July. Should be kept on port side when entering. Also two *green* lights, which kept in line lead to westward of breakwater.

Morups Tange.—On point, latitude 56° 55′ N., longitude 12° 21′ E. Fix. white, visible 16 miles.

Warberg.—On Skrifvareklippan, west of harbor, latitude 57° 06′ N., longitude 12° 13′ E. Alternate white and red, visible 12 miles. From 15th August to 15th May.

—— prolongation of west mole. Flash red and white, visible ten and 5 miles. Shows *white* flash between N. 31° E. (southward of this bearing it is obscured), and N. 56° E.; and a *red* flash from N. 56° E. through south and towards the harbor. Entering Warberg harbor, the white flashing light leads clear of Ryggen and Masten shoals on the port hand, and of Skalklippen rock on the starboard hand, but when opposite the fort the course must be altered to the northward and the flashing red light brought in sight.

Nidingen.—On rock, latitude 57° 18′ N, longitude 11° 54′ E. Two fix. white, ENE. and WSW., 33 yards, visible 12 miles. In fog a siren gives one blast every minute; fog signals will be answered by three guns.

Fiolskar.—Latitude 57° 21′ N., longitude 12° 1′ E. Two fix. and flash, visible 7 miles. The outer light is flashing *white* with two flashes seaward between N. 5° W. and N. 14° E.; fixed *white* between N. 14° E. and N. 40° E., and flashing *red* with one flash from N. 40° E. to N. 52° E.; the inner light is fixed, showing *red* between S. 20° W. and S. 30° W., and *white* from S. 30° W. to S. 34° W., in the direction of Kongsbacka fiord. Not shown when Kongsbacka fiord is closed by ice.

Waro Island.—Eastern shore, latitude 57° 33′ N., longitude 11° 48′ E. Fix. and fl., white, visible 10 miles. Shows fixed *white* from the southward through an arc comprised between the following lines of direction: The western line passing at least half a cable eastward of the beacon marking Wassaberget shoal; the eastern line passing at least half a cable westward of the beacon marking Kaggebaden shoal. Eastward of this eastern line of direction, through an arc of 6°, or between N. ¼ W. and N. ¼ W. (approximately), the light shows single *white* flashes. In the fairway from the northeastward towards Rattaren a faint fixed *white* light is visible; in other directions the light is obscured.

Rattaren.—Latitude 57° 35′ N., longitude 11° 48′ E. Fl., visible 5 and 3 miles. Shows a flashing *white* light from the southward, through a sector, indicating the fairway of the channel between Wallholm and Wallholmsb (Wallholmsbaden); westward of this sector a flashing *red* light is shown, and eastward of the sector a flashing *green* light. In the fairway from the northward the light shows a flashing *white* light, limited by Domso head; westward of this limit, a flashing *green*.

Winga.—On island, latitude 57° 38′ N., longitude 11° 36′ E. Two fix. and fl. white, NE ½ N., 136 yards apart, visible 14 miles. Obscured on a NE. and NNE. bearing. Siren in fog; guns fired in answer to vessels.

—— Harbor, latitude 57° 38′ N., longitude 11° 37′ E. Two fix. white, E. ½ N., 136 yards apart.

Buskar.—Islet, west side of entrance, latitude 57° 38′ N., longitude 11° 41′ E. Fix. red, visible 10 miles.

Botto.—On rock, east side of entrance, latitude 57° 39′ N., longitude 11° 43′ E. Shows two *white* flashes between N. 13½° E. and N. 33° E. and a *red* flash from N. 53½° E. to N. 73½° E. Fixed *white* between N. 33° E. and N. 53½° E., marking the fairway into Winga Sound from the southward. Visible 10 miles.

Brannasbraten.—On rock. Alternate *white* and *red*, visible 5 and 3 miles. Bell in fog.

Gefveskar.—on rock, latitude 57° 40′ N., longitude 11° 46′ E. Fix. red, visible 5 miles, between E. ½ N. through south to SW. by W.

Knippelholm.—Keeper's dwelling on southeast part of islet, latitude 57° 41′ N., longitude 11° 49′ E. Fl. white and red, visible 10 miles. *Red* northward of S. 80° E. over Skalkorgarne and other shoals.

Carnegieska.—At factory, latitude 57° 41′ N., longitude 11° 54′ E. Two fix. and fl. white, about 900 yards apart, visible 12 miles. Leading lights.

Great Warholm.—Western point, latitude 57° 42′ N., longitude 11° 42′ E. Fl. white and red, visible 5 and 3 miles, from 1st August to 1st May. *Red* between Rodskarsbraten and south point of Groto.

Stafvo.—Southeastern side, latitude 57° 44′ N., longitude 11° 39′ E. Fix. white, visible 5 miles.

Hallso.—Eastern side, latitude 57° 44′ N., longitude 11° 40′ E. Alt. white and red, visible 5 and 3 miles. This and the preceding light leads through Kalf Sound; from 1st August to 1st May.

Bjorko.—Western side, latitude 57° 44′ N., longitude 11° 40′ E. Two, north, Alt. white and red; south, fix. white, visible 5 and 3 miles. Leading lights, 715 yards apart; from 1st August to 1st May.

Salo Island.—West side, latitude 57° 49′ N., longitude 11° 37′ E. Fix. white, visible 5 miles, from 1st August to 1st May.

Lekskaren.—Latitude 57° 50′ N., longitude 11° 36′ E. Fl. white and red, visible 5 and 3 miles, from 1st August to 1st May. *Red* westward of a line extending to Salobade.

Ramholm.—On west side, latitude 57° 51′ N., longitude 11° 33′ E. Fix. white with red sector, and Fl. red, visible 5 and 3 miles. Northern light shows *red* between NE. by N., through east to south, *white* in all other directions; southern *red*, 139 yards apart. Lead towards Lekskaren. August to May.

Koon Island.—East side of entrance, latitude 57° 54′ N., longitude 11° 35′ E. Fix. white, visible 8 miles, seaward from S. ½ W. to E. ½ S.

Hamnskar.—On rock, west side of entrance, latitude 57° 54′ N., longitude 11° 28′ E. Rev. white, every minute and a half, visible 20 miles. Fog bell every 15 minutes.

Graenholm.—On south side, latitude 57° 56′ N., longitude 11° 33′ E. *Red* flashes between N. by E. and NW. by N., *white* flashes in all other directions; visible 5 and 3 miles. Shown from 1st August to 1st May.

Maseskar.—Summit of islet, latitude 58° 6′ N., longitude 11° 20′ E. White, group flashing, three flashes every 30 seconds, visible 17 miles, from SW. by S., through E. and N. to W. by N. ½ N. Siren or gun in fog.

Fredagsholm.—Southwest end of islet, latitude 58° 12′ N., longitude 11° 25′ E. Fixed *red* between S. 32° E. and S. 41° E.; fixed *white* from S. 41° E. to S. 48° E., indicating the fairway between Saltskafva and Norman shoals; fixed *red* from N. 10° W. to N. 45° W.; and fixed *white* from N. 45° W. to N. 60° W., leading to the anchorage in Ellelos fiord. Visible 5 and 3 miles.

Skafto Island.—Handsberg, southwest end of island, latitude 58° 12′ N., longitude 11° 24′ E. Shows single *red* flashes between S. 60° E. and S. 77° E.; fixed *white* from S. 77° E. to. S 88° E., indicating the fairway of the channel southward of Boden (or Fageln); double *white* flashes from S. 88° E. to N. 73° E.; single *red* flashes from N. 73° E. to N. 54° E.; fixed *white* from N. 54° E. to N. 50° E., indicating the fairway of the channel westward of Hattan; and double *white* flashes from N. 50° E. to N. 45° E.; it is obscured westward of Grasholmar and Bonden. Visible 11 and 6 miles.

Skafto Island.—On Oso, northward of Handsberg. Shows fixed *white* between N. 21° E. and N. 30° E., indicating the fairway eastward of Seiningarne; fixed *red* from N. 30° E. to N. 70° E.; fixed *white* from N. 70° E. to S. 28° W., indicating (to the northward) the fairway between Gaso and Loken; and fixed *red* from S. 28° W. to S. 38° W.; it is obscured by Seiningarne. Visible 7 and 4 miles.

Uddevalla.—North side Sunninge sound, latitude 58° 20′ N., longitude 11° 51′ E. Fix. visible 2 miles. *Red* seaward; *green* towards Uddevalla; *white* outside channel.

Hallo.—Half mile southeast from Salo beacon at entrance of Aby Fjord, latitude 58° 20′ N., longitude 11° 14′ E. Fl. white every 5 seconds, visible 16 miles. Obscured by Salo beacon between SE. ¼ E. and SE. by E. ¼ E.

Hollandarberg.—On Smogen Island, latitude 58° 22′ N., longitude 11° 13′ E. Fix. white, visible 10 miles.

Skarfvasatt.—North end of islet, latitude 58° 22′ N., longitude 11° 13′ E. Fl. white and red alternately.

Klofskar.—South side Sote fiord, latitude 58° 25′ N., longitude 11° 13′ E. Fix. *white* between N. 7° E. and N. 19° E.; flashing *white* with 1 flash from N. 19° E. to N. 27° E.; fixed *white* from S. 28° W. to S. 16° W.; and flashing *white* with 1 flash from S. 16° W. to S. 8° W. To the southward, the limit between the fixed and flashing lights passes over the east point of Nord Buskar; northward, the limit between the fixed and flashing lights leads westward of Saltskar. Visible 12 miles.

Langholm.—On islet, latitude 58° 32′ N., longitude 11° 14′ E. Fl. white and red alternately, visible 10 and 6 miles.

Magholm.—On islet, latitude 58° 32′ N., longitude 11° 14′ E. Fix. white, visible 10 miles.

Svartskar.—On rock, latitude 58° 33′ N., longitude 11° 14′ E. Alt. white and red, visible 5 and 3 miles, from north, through east and south, to SSW. ¼ W., from 1st August to 1st May.

Snixholmen.—On islet, latitude 58° 34′ N., longitude 11° 15′ E. Alt. white and red, visible 7 and 6 miles.

Tenungen.—On islet, latitude 58° 34′ N., longitude 11° 15′ E. Fix. white, visible 10 miles, from August to May.

Waderrobod.—Wadero islands, latitude 58° 33′ N., longitude 11° 2′ E. Red and white alternately, every half minute, visible 14 miles; not visible to the northeast, being hidden by Wadero Stora.

Nord Koster.—On the north islet of group, highest point, latitude 58° 54′ N., longitude 11° 0′ E. 1 white, with flash every 3 minutes, north and south, 65 yards; a fix. white, both visible 16 miles.

Bissenholm.—On southwest side, latitude 58° 48′ N., longitude 11° 10′ E. 1 fix. white and 1 alt. white and red, visible 5 miles each. Leading lights between Klippa and Svartskaren, 26 yards apart. Shown from August to May; not constantly attended to.

Kabblingarne.—On islet, latitude 58° 55′ N., longitude 11° 6′ E. Alt. white and red, visible 5 miles.

Likholm.—On islet, latitude 58° 56′ N., longitude 11° 7′ E. Fix. white, visible 5 miles. This with preceding light will lead from Koster fiord to entrance to Stromstad. Shown from 1st August to 1st May.

Tjurholm.—On eastern side, latitude 58° 59′ N., longitude 1° 6′ E. Fix. white, visible 5 miles; from August to May.

LITTLE BELT.—DENMARK AND GERMANY.

Aarhuus.—Northern mole head, latitude 56° 9′ N., longitude 10° 13′ E. Fix. green; a fixed *white* light is also shown from the inner north mole. Southern mole head: Fix. red, visible 6 miles.

Thuno.—East side of island, on church tower, latitude 55° 57′ N., longitude 10° 27′ E. Fix. white, with red sector, visible 11 miles; *red* in direction of Ronnen Point. Hidden by Samso I., between WSW. and north.

Vestborg Point.—Southwest part of Samso, latitude 55° 46′ N., longitude 10° 33′ E. Fix. white, with a flash, visible 16 miles.

Horsens.—On pier, latitude 55° 52′ N., longitude 9° 52′ E. 2 fix. white, 119 yards apart, visible 6 miles. In line lead into the harbor.

Veile.—Head of Veile fiord, latitude 55° 42′ N., longitude 9° 33′ E. Fix. red, visible 4 miles.

Æbelo Island.—Northwest point, latitude 55° 39′ N., longitude 10° 10′ E. Two white flashes every half-minute, visible 13 miles; obscured towards the land from N. 29° E. to N. 61° W.

Bogense.—On pier, latitude 55° 34′ N., longitude 10° 5′ E. Fix. red, visible 3 miles.

Fredericia.—Northwest mole, latitude 55° 33′ N., longitude 9° 46′ E., Fix. red, visible 3 miles.

Fredericia.—On the shore, 2 fix. red, visible 2 miles; leading lights.

Striib Point.—Near extreme, latitude 55° 32′ N., longitude 9° 46′ E. Fix. white, visible 12 miles, through an arc of 18° from S. 58° W. to S. 76° W. Also, 4 fix. red and green.

Middelfart.—West mole, latitude 55° 30′ N., longitude 9° 44′ E. Fix. white, visible 3 miles; from November to May.

Baago Island.—Southwest point, latitude 55° 18′ N., longitude 9° 48′ E. Fix. white, visible 10 miles.

Assens.—North harbor mole, 47 feet from end, latitude 55° 16′ N., longitude 9° 54′ E. Fix. red, visible 6 miles.

Fnaborg.—On east mole, latitude 55° 6′ N., longitude 10° 15′ E. Fix. red.

Aaro.—In harbor, south mole, latitude 55° 16′ N., longitude 9° 43′ E. Fix. white, visible 10 miles; November to May.

Apenrade.—In harbor, south mole, latitude 55° 2′ N., longitude 9° 26′ E. Fix. red, visible 4 miles; shown until 1 a. m. from 15th September to 1st April.

Skioldness.—345 yards from northwest end of Æro Island, latitude 54° 58′ N., longitude 10° 13′ E. Fl. white every half-minute, visible 15 miles. Siren in fog gives a blast every minute.

Æreskjobing.—Navires quay, latitude 54° 53′ N., longitude 10° 25′ E. Fix. white, visible 4 miles; September to May.

Marstal.—On western mole, latitude 54° 51′ N., longitude 10° 32′ E. Fix. red; October to April.

Rudkiobing.—North side of harbor, latitude 54° 56′ N., longitude 10° 42′ E. Fix. *white*, visible 5 miles; a *red* light is also shown on the north mole, and a *green* light on the south mole, from August to April.

Kekenes.—South point of Als Island, latitude 54° 51′ N., longitude 9° 59′ E. Fix. white, visible 12 miles, between W. ¼ S., through north, to E. by S. ¼ S.

Kalk Ground.—Light-vessel in 10 fathoms, 1 cable N. by E. from beacon, latitude 54° 50′ N., longitude 9° 54′ E. Fix. white, visible 7 miles. Vessel red, with 1 mast. Gong in fog. Pilot station.

Sonderborg.—Near castle on poles, latitude 54° 55′ N., longitude 9° 48′ E. 2 fix. red, visible 3 miles; in line lead through the channel; a *green* light is also exhibited on the pontoon bridge.

Schlei.—Mole north of port, latitude 54° 40′ N., longitude 10° 2′ E. Fix. red, visible 8 miles, between S. by E. through west and N. by E. ½ E. Pilot station.

Eckernforde.—Western side of bay, latitude 54° 28′ N., longitude 9° 51′ E. 2 fix. white, 146 yards apart, visible 8 miles; leading lights into bay. Close to harbor, fix. red, visible 2 miles.

BALTIC ENTRANCE.—GERMANY.

Bulk Point.—Near extreme, latitude 54° 27′ N., longitude 10° 12′ E. Fix. white, visible 15 miles, between SSE. through west, and NNE. ¼ E. Siren in fog for 5 secouds, with 40 seconds interval.

Friedrichsort.—Within point of reef, latitude 54° 23′ N., longitude 10° 12′ E. Fix. white, visible 9 miles. A gong will be sounded in fog for 15 seconds every minute, in answer to signals from passing vessels. When the fiord is not navigable for ice the light is discontinued.

—— Mole heads of boat harbor, 2 fix.; north mole *white*, east mole *red*.

Dusternbrook.—Northeast angle of Torpedo harbor pier, latitude 54° 20′ N., longitude 10° 9′ E. Fix. red, visible 3 miles, between NE. by E. and S. by E.

Kiel.—On pier, latitude 54° 19′ N., longitude 10° 8′ E. 2 fix. green and red, visible 2 miles.

Kitzenberg.—On western deviation beacon, fix. green, visible in channel from SW. ¼ S. to NE. ¼ N. A *white* ray is shown in direction of Moltenort.

Sandkrug or Wilhelminenhohe.—East shore of Kiel fiord, latitude 54° 19′ N., longitude 10° 9′ E. 2 fix. red, NE., and SW., 75 yards apart, visible 6 miles. The two lights in line will lead over the 4-fathom shoal off the village of Ellerbeck, which is marked by a buoy with staff and broom.

West Markeladorf.—About 1,100 yards from point, latitude 54° 32′ N., longitude 11° 4′ E. Fix. and flashing white. Visible 10 miles, through an arc of 270°—showing flashing *white* through an arc of 100° between NNE. ¼ E., the direction of Flugge light, and SE. ¼ E.; fixed *white* through an arc of 147°, or between SE. ¼ E. and W. ¼ N.; and flashing *white* through an arc of 23°, or from W. ¼ N. to NW. by W. ½ W.

Flugge Wood.—Northern side of Femern Sound, latitude 54° 26′ N., longitude 11° 1′ E. Fix. white, visible 13 miles.

Strukamp Point Spit, near extreme, latitude 54° 25′ N., longitude 11° 6′ E. Fix. white, SE. ½ S. and NW. ½ N. 3¼ miles. This light with the above are the leading lights for Femern Sound.

Furgstaaken.—North side of Burg Bay, latitude 54° 25′ N., longitude 11° 12′ E. Two fix. red, in line N. 3° E. Also, two fix. green, in line N. 9° E. Leading lights for harbor.

Marien.—South of Ohlenburgh Point, latitude 54° 30′ N., longitude 11° 14′ E. Rev. white, bright 3 seconds, eclipsed 27 seconds; visible 12 miles. Not visible between N. ¼ E. and N. by W. Siren in fog.

Heiligenhafen.—South side of Heilig road, latitude 54° 22′ N., longitude 11° 1′ E. Fix. white, visible 5 miles, from SSW. ¼ W., through west, to NW. by W. ¼ W.

Dahme Head.—One hundred and seventy-five yards from high water, latitude 54° 12′ N., longitude 11° 6′ E. Fix. white, with flash, visible 10 and 14 miles, through 252° or from S. 7½° W. to N. 79½° E.

Pelzer Point.—E. by S. 2 miles from entrance to Neustadt, latitude 54° 5′ N., longitude 10° 52′ E. Revolving white, bright 15 seconds, visible 12 miles, between WSW. and ESE. Pilot station.

GREAT BELT.—DENMARK.

Seiro.—Northwest point of island, latitude 55° 55′ N., longitude 11° 5′ E. Rev. white, bright 20 seconds, visible 15 miles.

Reef Ness.—Extreme point, latitude 55° 45′ N., longitude 10° 52′ E. Fix. white, visible 12 miles.

Kallundborg.—Gisselore point, latitude 55° 41′ N., longitude 11° 5′ E. Fix. white, visible 6 miles.

Hals.—On point west side of entrance. Fix. white, visible 6 miles, latitude 55° 31′ N., longitude 10° 40′ E.

Romso Island.—East side, latitude 55° 31′ N., longitude 10° 48′ E. Triple flashing white, every 20 seconds, visible 14 miles; the light is obscured from N. 66½° E. to S. 34½° E. by the wood on Romso Island.

Kerteminde.—North mole head, latitude 55° 29′ N., longitude 10° 47′ E. Fix. green, visible 4 miles.

Halskov.—Near Korsor, latitude 55° 20′ N., longitude 11° 8′ E. Fix. white, visible 10 miles, between SE. by S. to NNE. For the guidance of the packets in dark weather another light just without the former is shown like a torch light.

Korsor Road.—Light-vessel in 22 feet, WSW. 1½ cables from Erteo sand beacon buoy, latitude 55° 20′ N., longitude 11° 7′ E. Two fix. red over white, vertical; ball at masthead. Fog signals, consisting of guns, blue lights, or hand sirens, will be shown from this light-vessel.

Kersor.—North side in making harbor, latitude 55° 20′ N., longitude 11° 8′ E. Two fix. white, visible 9 miles. To be kept in line to enter harbor; the two lights are seen from SE. by E. to NE. A gun and siren in fog when mail steamer is expected.

Sprogo.—East and highest part of island, latitude 55° 20′ N., longitude 10° 58′ E. Rev. white, visible 17 miles.

Knuds Head.—Latitude 57° 17′ N., longitude 10° 51′ E. Fix. white, visible 10 miles.

Slipshavn.—Battery on Slips point, in entering Nyborg fiord, latitude 55° 17′ N., longitude 10° 50′ E. Fix. red, visible 6 miles, from W. ¼ N. through north to S. by W. ¼ W.

Nyborg Harbor.—Pier head, latitude 55° 18′ N., longitude 10° 48′ E. Two fix. red, visible 2 miles, and shown when mail is expected. To be kept in line to enter harbor.

Avernakkg.—On point, two fix. white, N. 41° W., 60 yards apart. Visible between N. 46° W. and N. 36° W.

Nyborg Bay.—Fortress ground, west of harbor, latitude 55° 18′ N., longitude 10° 47′ E. Two fix. white, N. ¼ W. and S. ¼ E., visible 6 miles; leading lights.

Lundeborg.—Latitude 55° 8′ N., longitude 10° 48′ E., fix. red; harbor light.

Svendborg, Fyen.—On pier, latitude 55° 3′ N., longitude 10° 37′ E. Four fix., two white, visible 4 miles; one green and one red, visible 2 miles. Shown from October to March. A fixed *green* light is also exhibited on the south extreme of Frederiksoen.

Lohals Harbor.—On quay, latitude 55° 8′ N., longitude 10° 51′ E. Fix. red, visible 8 miles. September to April.

Helholm.—Agerso, S. point, latitude 55° 11′ N., longitude 11° 12′ E. Fix. white, visible 8 miles. By day a ball, painted red and white, about 3 feet in diameter, will be seen over the lantern.

Tranekiær.—On point, latitude 54° 59′ N., longitude 10° 53′ E. Fix. white, visible 9 miles. Siren in fog.

Fukkebierg.—One mile N. of S. point of island, latitude 54° 44′ N., longitude 10° 42′ E. Fix. white, visible 14 miles.

Kjeldsnor.—Low sandy beach, latitude 54° 44′ N., longitude 10° 43′ E. Fix. white, visible 9 miles, from N. 79° E., through north, to S 53° W.

Bagnkop.—North pier head, latitude 54° 45′ N., longitude 10° 40′ E. Fix. red, visible 4 miles, and shown from 1st of September to 1st March.

Albue Point.—North extreme of point, latitude 54° 50′ N., longitude 10° 58′ E. Two fix. red, visible 5 miles. Leading lights 115 yards apart. From 1st September to 31st October.

Taars.—On strand and pier, latitude 54° 53′ N., longitude 11° 2′ E. Two fix. white, E. ¼ S., 663 yards apart, visible 10 and 6 miles.

Vœiro.—Northeast point of island, latitude 55° 2′ N., longitude 11° 22′ E. White rev. every 15 seconds, visible 10 miles.

Ore.—Latitude 55° 0′ N., longitude 11° 52′ E. Two fix. white NE. ¼ E. 34 yards, visible 4 miles. Leading lights over Masnedo flat. The low light shows only to the southwest.

Vordingborg.—Quay and eastward of town, latitude 55° N., longitude 11° 53′ E. Three fix. white, visible 4 and 2 miles.

Masned Island.—On north side, latitude 55° N., longitude 11° 54′ E. Two fix. white, 63 yards apart, shown from 1st August to 1st May, when channel is open.

Gaabensee.—North coast of Falster, latitude 54° 56′ N., longitude 11° 53′ E. Two fix. white, visible 4 miles.

Orehoved.—Pier head, latitude 54° 58′ N., longitude 11° 51′ E. Fix. red, visible 4 miles.

THE SOUND.—DENMARK.

Nakke Head.—Near extreme, latitude 56° 7′ N., longitude 12° 21′ E. Two fix. white, WNW. and ESE., 438 yards apart, visible 12 and 8 miles.

Lappe Ground.—Light vessel, northward of shoal in 11 fathoms, latitude 56° 4′ N., longitude 12° 36′ E. White double-flashing minute light, visible 10 miles. A siren gives two blasts in quick succession every minute. Elsinore sea and harbor pilots may be obtained from this light-vessel, which will, when the ice allows, be kept at her station throughout the year.

Kronborg.—Northeast tower of castle, latitude 56° 2′ N., longitude 12° 37′ E. Fix. white, with *red* flash every half minute, visible 15 miles. Not seen when bearing about NNE., being obstructed by the southeast spire of castle. The *red* flash is of 5 seconds duration. Horn in fog.

Elsinore.—South pier head, latitude 56° 2′ N., longitude 12° 37′ E. Fix. red, visible 3 miles.

Sletten.—South mole of boat harbor, latitude 55° 57′ N., longitude 12° 32′ E. Fix. white and red. Harbor light shown from 1st September to 1st March.

Hveen Island.—Northwest point, latitude 55° 55′ N., longitude 12° 40′ E. Flash white, every 10 seconds, visible 12 miles. Not visible eastward of N. by W. ½ W.

—— Mole head, Kyrkbacken, latitude 55° 54′ N., longitude 12° 41′ E. Fix. red between N. by W. and E. by N. Green from E. by N. to S. by E. and white from S. by E. to W. by S. From 1st September to 30th April.

Vedbek.—Near the shore, latitude 55° 51′ N., longitude 12° 34′ E. Two fix. white, W. ¼ S. 410 yards apart. In line show the direction of the submarine cable.

Torbek.—North mole, latitude 55° 47′ N., longitude 12° 36′ E. Fix. green. From 1st August to 1st January.

Skove Head Harbor.—Head of south breakwater, latitude 55° 45′ N., longitude 12° 36′ E. Fix. red, visible 2 miles.

Copenhagen.—East side of Trekroner battery, latitude 55° 42′ N., longitude 12° 37′ E. Fix. white, with a flash every minute of 5 seconds duration, visible 12 miles.

—— Trekroner battery. Two fix. red, N. 29° W. and S. 29° E., 185 yards apart, visible 11 miles. In line lead through Konge deep. Fog siren gives first a *high* and then a *low* note.

—— On citadel and outer redoubt, latitude 55° 42′ N., longitude 12° 37′ E. Two fix. red, 148 yards apart. In line SW. ¼ W. lead through Krone channel.

—— North entrance to inner harbor, two fix. red; leading lights to mark eastern limit to Krone channel.

—— Near custom-house, two fix. green; leading lights to mark western limit of Krone channel. A *white* light is shown above when the fairway obstructed.

—— Provestenen battery, latitude 55° 40′ N., longitude 12° 38′ E. Two fix. red, S. 15° W. and N. 15° E., 103 yards apart, visible 5 miles. In line lead between Middleground and Middlepult.

Kalveboderne (Sorte Channel).—Light-vessel in 12 feet, on east side of channel, latitude 55° 36′ N., longitude 12° 31′ E. Two fix. white over red, vertical, 6 feet apart, visible 8 miles. Shown from 1st September to 1st December. A hand siren in fog. Red ball at mainmast head.

North Rose.—Tower in 14 feet water on shoal, latitude 55° 38′ N., longitude 12° 41′ E. Fix. white, with red flash every ¼ minute, visible 10 miles.

Dragor.—North end of town, latitude 55° 36′ N., longitude 12° 40′ E. Two fix. red, S. 18° W., 412 yards apart, visible 10 miles. In line lead through Hollœnder deep.

—— Extremity of northern pier of harbor, latitude 55° 36′ N., longitude 12° 41′ E. Fix. red, visible 2 miles, from NNE. to SSW. Not lighted in May, June, and July, or when harbor is impeded by ice.

Dragor or Drogden.—Light-vessel in 4½ fathoms, 1½ cables southwest of shoalest part of Quartus ground, latitude 55° 33′ N., longitude 12° 43′ E. Double-flashing white, every 30 seconds, visible 10 miles. Red with white cross, Danish flag over ball at fore; light on aftermost mast. There are pilots for the Sound on board. Siren in fog.

Kioge.—On pier, latitude 55° 27′ N., longitude 12° 12′ E. Fix. red, visible 4 miles. Pilot station.

Cape Stevns.—Near extreme, latitude 55° 17′ N., longitude 12° 27′ E. White flash every 30 seconds, visible 20 miles.

Rodvig.—Eastern end of jetty, latitude 55° 15′ N., longitude 12° 23′ E. Fix. red, visible 5 miles.

Faxo Harbor.—Eastern pier head, latitude 55° 13′ N., longitude 12° 10′ E. Fix. green, visible 9 miles; shows a *white* light in the direction of Bögestrom Bay, and 20° to the north.

Moen Island.—Southeast point, latitude 54° 57′ N., longitude 12° 33′ E. Fix. white, visible 11 miles, E.¼ N., through north, to SW. ¼ W.

Hesnaes.—End of western harbor dike, at inner harbor, latitude 54° 49′ N., longitude 12° 9′ E. Two fix. outer red, inner white; in line clear south mole head. Shown from 15th August to 1st May.

Giedser Point.—South point of Falster Island and half a mile inland, latitude 54° 34′ N., longitude 11° 58′ E. Fix. white, visible 13 miles.

Giedser Reefs.—Light-vessel in 6 fathoms, near southeast extreme of reef, latitude 54° 28′ N., longitude 12° 9′ E. Red flash every half minute, visible 10 miles. Two masts, ball on foremast. Trumpet in fog.

Nysted Harbor.—Latitude 54° 40′ N., longitude 11° 44′ E. Fix. white, visible 9 miles. From August 15 to April 30, when harbor is not closed by ice.

THE SOUND.—SWEDEN.

Falsterbo Reef.—Light-vessel, mile south of extreme outer point of reef, latitude 55° 18′ N., longitude 12° 47′ E. Two fix. white, visible 10 miles. Vessel red, 2 masts with red balls. A blue and white flag at the peak by day, and *white* light at night, denotes pilots are on board. Siren in fog.

Falsterbo Point.—Within reef, extreme point southwest of town, latitude 55° 23′ N., longitude 12° 49′ E. Fix. white, visible 14 miles. The following signals will be made from a mast (63 feet high) with yard, situated about 130 yards southwestward of light-house. A ball on the northern yard arm indicates that the light-vessels in the Flint Channel are withdrawn. A ball on the southern yard arm indicates that Dragor (Drogden) light-vessel is withdrawn. A ball on the mast above the yard indicates that the light-vessels in Flint Channel are withdrawn, and that the channel is blocked by ice. A ball on the mast below the yard indicates that the Malmö Harbor is blocked by ice.

Skanor.—North mole head, latitude 25° 55′ N., longitude 12° 50′ E. White between N. 30° E., through east to S. 47° E. Red from S. 47° E. to S. 12° E. White from S. 12° E. to S. 5° W. Red from S. 5° W. to S. 14° W. over Koground and West Haken shoals, and white from S. 14° W. to the shore. Obscured northward of N. 30° E. by the land. Visible 5 miles.

Limhamn.—In harbor, latitude 55° 34′ N., longitude 15° 56′ E. Two fix. white and red, visible 1 and 2 miles. Leading lights (NE. ¼ N.) into harbor. Shown from 1st August to 9th December.

Malmo.—High light, latitude 55° 37′ N., longitude 13° 0′ E. Visible through an arc of 45°; shows a flash of 1 second duration every 4 seconds between S. 3° W. and S. 16° E.; a fix. white light between S. 16° E. and S. 34° E.; and two flashes in quick succession every 4 seconds between S. 34° E. and S. 42° E. Visible 12 miles.

—— Low light on new west mole head. Shows fix. red between S. 18° W. and S. 68° E.; fix. white between S. 68° E. and S. 80° E.; a single flash between S. 80° E. and S. 85° E.; fixed white between S. 85° E. and N. 78° E.; and two flashes in succession between N. 78° E. and N. 59° E. The lights in line bear S. by E. ¼ E., visible 8 miles. On the eastern side of the low light-house a reflector has been placed, which throws a light over the east mole head (painted white). The *white* light on the old west mole will still be continued.

Pilot vessel off Malmo outer road.—*Lots* on sides. At night two white lights (vertical and 3 feet apart) will be exhibited from the gaff of this vessel, should there be pilots on board, also a riding light; but with no pilots on board one white light only will be shown from the gaff. During the day and with pilots on board a blue and white flag will be shown from the vessel's masthead. During foggy weather a bell sounds four times every 2 minutes, and with it fog signals from passing vessels will be answered. Will leave only when ice necessitates.

Kalkground.—Light-vessel northward of shoal, latitude 55° 37′ N., longitude 12° 54′ E. White flash every alternate second, visible 8 miles. *Kalkgrundet* on sides. In line with *Oscagrundet* leads through Flint Channel. In fog a bell sounds three times in quick succession every 2 minutes.

Oscargrund.—Light-vessel, northward of shoal, latitude 55° 36 N., longitude 12° 51′ E. Fix. white, visible 8 miles. *Oscargrundet* on sides. Fog bell sounded twice in quick succession every 2 minutes.

Lomma.—About 4 miles northward of Malmö. Two fix. green, E. ¼ N. and W. ¼ S., 33 yards apart. The lights in line lead towards the harbor.

Barsebak.—South mole head, latitude 55° 45′ N., longitude 12° 54′ E. Fix. white and red, visible 5 miles. *Red* between N. 45° E. and N. 77′ E. (over Kulorna reef) and between south and S. 29° E. (over the Valgrund). Shown when navigation is open.

—— Southward of harbor, latitude 55° 45′ N., longitude 12° 54′ E. Fix. white and red, visible 6 miles. *Red* from E. by N. to E. by S. over Kulorna, and from S. 29° E. to S. over Val ground.

Landskrona.—In harbor, on quay, latitude 55° 52′ N., longitude 12° 50′ E. Two fix. green and red, 234 yards WNW. and ESE, visible 8 and 3 miles. Outer light *green*, inner light *red*. In one lead small craft into harbor. At Borsta house, northward of Landskrona, a temporary fixed *white* light.

Alabodarne.—On outer pier head, latitude 55° 56′ N., longitude 12° 46′ E. Fix. white, with red sector from SSE. to the land, visible 3 miles. From August 1 to April 30.

Raa.—Pier head, latitude 56° N., longitude 12° 45′ E. Fix. green, visible 10 miles, from August to April.

Helsingborg.—North pier head, latitude 56° 3′ N., longitude 12° 41′ E. Fix. red, visible 6 miles. Two fix. green, NNE. and SSW., 43 yards apart, visible 3 miles. Kept in line will lead into harbor.

Wiken.—Latitude 56° 9′ N., longitude 12° 34′ E. Fix. green between E. by N. and N. by E. White in other directions; visible 1 and 4 miles. Shown from September 1 to April 1.

Svinbadarne.—Light-vessel, westward of Jungnas shoal, latitude 56° 11′ N., longitude 12° 31′ E. Two fix. red, visible 6 miles. Vessel is red, with two masts and red ball at each masthead. When pilots are on board a blue and white flag will be hoisted at the peak, and at night a *white* light. Horn in fog.

Hoganæs.—End of outer harbor arm, latitude 56° 12′ N., longitude 12° 33′ E. Fix. visible 6 and 4 miles. White between S. 70° E. and east, red from east to the southward; it is obscured N. of S. 70° E.

Lerhamn.—On pier, latitude 56° 16′ N., longitude 12° 31′ E. Two fix. white, leading lights, SE. ¼ E. 164 yards.

Mollelei (*Molle*).—Outer mole head, latitude 56° 17′ N., longitude 12° 30′ E. Fix. white, with red sector, visible 5 miles. *Red* from S. 32° E. to S. 66° leading into harbor. Not shown from April 15 to August 15, or when harbor is blocked with ice.

Kullen.—On face of hill, latitude 56° 18′ N., longitude 12° 27′ E. White revolution every two minutes, visible for 30 seconds. Visible 20 miles. In fog a gun is fired every 15 minutes.

Engelholm.—North pierhead, latitude 56° 16′ N., longitude 12° 50′ E. White and red alternately, visible 4 miles.

Hallands Wadero.—Western side, latitude 56° 27′ N., longitude 12° 33′ E. Fix. white, with two *red* flashes in quick succession every minute. Visible 14 miles from N. 13° W. to N. 85° W. Siren in fog.

Wingascar Rock.—On rock, latitude 56° 25′ N., longitude 12° 35′ E. Fix. white and red, visible 10 and 6 miles. *Red* from S. 77° W. to S. 62° W., *white* from S. 62° W. to S. 7° E., *red* from S. 7° E. to N. 54° E., *white* from N. 54° E. to N. 29° E., *red* from N. 29° E. to N. 4° W. Not constantly attended to.

BALTIC SEA.—DENMARK.

Ronne Harbor.—East light in town; west on mole, latitude 55° 6′ N., longitude 14° 42′ E. Two fix. red, ENE. 330 yards apart; visible 8 miles. Leading lights. Fog siren intended.

Hasle.—Western mole head, latitude 55° 11′ N., longitude 14° 42′ E. Fix. red, visible 4 miles. August to May.

Hammer Point.—Steilbierg, near north point of island, latitude 55° 17′ N., longitude 14° 46′ E. Fix. white, visible 20 miles. Obscured by hills between W. by N. and WNW. Siren in fog. From a secondary light NNW. from the light-house will be exhibited: (1) A *green* light when Falsterbo reef light-vessel is not at her station. (2) A *red* light that Drogden light-vessel is not at her station. (3) A *white* light that Falsterbo reef and Drogden light-vessels are not at their stations. The light, elevated 245 feet above the sea, is visible from S. ¼ E. through south to W. ¼ S. The green light should be seen in clear weather from a distance of 11 miles, the red light 13 miles, and the white light 17 miles.

Gudhiem.—Near harbor entrance, latitude 55° 13′ N., longitude 14° 59′ E. Two fix., high red, low white, visible 2 and 3 miles. Fishing lights—kept in line will indicate the direction of harbor entrance.

Nexo.—North mole, latitude 55° 4′ N., longitude 15° 8′ E. Fix. white and red. Fishing light, showing *white*.

Due Odde.—1,717 yards from S. point of Bornholm, latitude 55° 0′ N., longitude 15° 5′ E. Fix. white, with flash every 90 seconds, visible 20 miles.

Due Odde Point.—On point, S. 18° W., 1,147 yards from Due Odde. Fix. white, visible 12 miles. In fog, a siren, 103 yards southward of the light-house, will give a blast every 2 minutes. Seaward, *red* in the fairway of entrance. A *white* light is also shown from the south mole.

Christianso.—On largest tower of fort, latitude 55° 19′ N., longitude 15° 12′ E. White flash every 30 seconds, visible 15 miles.

Adler Ground.—Light-vessel in 6½ fathoms northward of shoals, latitude 54° 48′ N., longitude 14° 21′ E. White flash twice every half minute, visible 11 miles. A white riding light is also shown from the fore part of vessel. Siren or gun in fog. Vessel is red, with black ball on main.

BALTIC SEA.—GERMANY.

Travemunde (*Lubeck*)—North point of river, 1 mile below Travemunde, latitude 53° 58′ N., longitude 10° 53′ E. 2 fix. white, vertical, in same tower, visible 16 and 6 miles. The high light is shown through an arc of 105° or between S. 7° W. and N. 68° W.; but is obscured by Brothener (Broddner) shore on the western side, and by the high land of Schwansee and Klutz on the eastern side, so that to vessels approaching from seaward it is only visible between S. 17½° W. and S. 78½° W. This light is brightest on the bearing of S. 60° W., and this intensity is nearly maintained when bearing from S. 44° W. to S. 74° W. The low light is shown through an arc of 104°, or between S. 7½° W. and N. 68½° W.; but it is obscured by the high land in the same directions as the high light, and is also brightest on the bearing S. 60° W. The lower light is most intense over an arc of 13° on each side of the axis on the bearing of SW. by W. ¼ W.

——On southern mole (eastern light). Fix. red, visible 3 miles. Leading light.

——On peninsular "Privall" (western light). Fix. red, visible 3 miles. Leading light.

——On jetty and between two houses, two Fix. green, visible 3 miles. Leading lights.

Timmendorff.—West point of Poel Island, latitude 54° N., longitude 11° 23′ E. Fix. white, visible 10 miles. For the convenience of fishermen, a feeble light is shown from a window of the light-house between E. ¼ N. and NE. by E. ¼ E. Pilot station.

Buk (*Buch*) *Point.*—Conical hill, 1 1/10 miles south of Buch Point, latitude 54° 8′ N. longitude 11° 42′ E. Fl. white, every 15 seconds, visible 16 miles. A sector of *red* (flashing) light, visible 14 miles is shown over the shoal ground of Wismar Bay between E. ¼ N. and NE. ¼ E.

Warnemunde (*Mecklenburg*).—West side of entrance, latitude 54° 10′ N., longitude 12° 5′ E. Fix. white, visible 12 miles, from August 1 to April 30. Signals are made to show depth of water at entrance.

——On moles, two Fix. green, visible 4 miles. Not shown when harbor entrance is obstructed. The western light is 137 yards from mole head. Two Fix. red, S. by W. and N. by E., in line will indicate the middle of harbor entrance, visible 8 miles. Approaching from westward they are not seen until bearing about south.

Dars Point.—On point, latitude 54° 28′ N., longitude 12° 30′ E. Two white, vertical, rev. and fix., visible 16 and 12 miles. High light not visible southward of a W. ¼ S. bearing. Lower light is only visible between SE. and E. ¼ S. At a great distance the high light is seen for 10 seconds, and eclipsed at 50 seconds; within a certain distance not totally eclipsed. Fog gun intended.

Cape Arkona.—Near extreme, latitude 54° 41′ E., longitude 13° 26′ E. Fix. white and red, visible 22 miles. The *white* light is visible beween NE. by E. ¼ E., through south and west to NNW. ¼ W, and the *red* light between NNW. ¼ W, through north to NE. by E ¼ E. A white light is also shown from the beach, about a mile southward of Arkona light. Horn in fog.

Palmerort.—Light vessel in Stralsund Channel, latitude 54° 12′ N., longitude 13° 25′ E. Two fix. white, vertical, visible 10 miles. Bell in fog.

Griefswald Island.—Northeast part of island, latitude 54° 15′ N., longitude 13° 56′ E. Rev. white and red alternately, every 3 minutes, visible 17 miles.

—— North mole head of refuge harbor. Fix. red, from March to December.

Ueckermunde.—West mole, latitude 53° 29′ N., longitude 14° 3′ E. Fix. white and red, visible 6 miles.

Swinemunde, port of Stettin.—East side of harbor, 1¼ miles south of mole light, latitude 23° 55′ N., longitude 14° 18′ E. Fix. white, visible 21 miles. Visible seaward between W. ¼ S. and SSE.

—— East mole head, latitude 58° 56′ N., longitude 14° 17′ E. Fix. red, visible 10 miles. Bell in fog.

Great Sea between Swinemunde and Stettin.—Light vessel in 19 feet, at the mouth of Kaiserfahrt, latitude 53° 48′ N., longitude 14° 21′ E. Four fix. white, visible 7 miles. Vessel red, ball at mast head.

—— Light-ship, west of Schwantewitz bank, latitude 53° 40′ N., longitude 14° 31′ E. Fix. white, visible 7 miles. In fog a bell is rung every 5 minutes.

—— Light vessel, Woitzig sand bank, South Point, latitude 53° 47′ N., longitude 14° 18′ East. Fix. white, visible 7 miles. Red flag by day. Bell every 5 minutes in fog.

—— Near Paulsdorf Village, latitude 53° 47′ N., longitude 14° 37′ E. Two fix. white, 445 yards apart, visible 11 miles. Leading lights through Walliner Schaar.

Gross Horst.—On point, latitude 54° 06′ N., longitude 15° 04′ E. White rev. every 20 seconds, visible 20 miles. Visible seaward between the bearings E. and W.

Colberg.—Extremity of east mole, latitude 54° 11′ N., longitude 15° 34′ E. Fix. red; visible 6 to 8 miles.

Fukenhagen.—Near village, latitude 54° 15′ N., longitude 15° 52′ E. Fix. white, visible 19 miles.

Eugenwaldermunde.—Inner part of east mole, latitude 54° 26′ N., longitude 16° 23′ E. Fix. red, visible 6 miles. Fairway of harbor entrance bears NW. by W. ¼ W. from this light.

Jershoft.—Near village, 420 yards from shore, latitude 54° 33′ N., longitude 16° 33′ E. White rev. every 2 minutes, visible 70 seconds. Visible 18 miles, between ENE. to WSW.

Stolpemunde.—Pilot watch-house, latitude 54° 35′ N., longitude 16° 52′ E. Fix. red, visible 6 miles

Scholpin.—Summit of hill, half a mile inshore, latitude 54° 43′ N., longitude 17° 15′ E. Fix. white, visible 22 miles.

Rixhoft.—On point, latitude 54° 50′ N., longitude 18° 21′ E. Fix. white, visible 22 miles, between ESE. to NW. Fog trumpet gives one blast of 5 seconds every minute.

—— 208 yards WNW. from the above. Fix. white, visible 21 miles.

Heisternest.—On a hill, latitude 54° 39′ N., longitude 18° 48′ E. Fix. white, with flash every 2 minutes, visible 8 miles, between N. by E. ¼ E. and E. by S. ¼ S.

Hela.—Four cables NE. ¼ E. from point, latitude 54° 36′ N., longitude 18° 49′ E. White rev. every half minute, visible 16 miles, from S. ¼ E., through west, to SE. Lifeboat and storm signal station.

Oxhoft Point.—NE. ¼ E. 580 yards from church, latitude 54° 33′ N., longitude 18° 34′ E. White flash every 3 seconds, visible 13 miles.

Dantzig.—Neufahawasser tower, latitude 54° 24′ N., longitude 18° 40′ E. Fix. white, visible 14 miles.

—— Extremity of east mole, latitude 54° 25′ E., longitude 18° 40′ E. Fix. red, visible 5 miles. Bell in fog.

Pillau.—Southeast part of town, latitude 54° 38′ N., longitude 19° 54′ E. Fix. white, visible 14 miles between NE. (through east) and SSW. Shown from August 1 to May 15.

—— Northwest mole head, two fix. red, vertical.

—— Southeast mole head, two fix. green, vertical.

—— Western part of outer mole. Two fix. white over red; shown (weather permitting) as long as the Frische Haff is navigable.

—— North mole head. Fix. red, visible 7 miles from SW. by S. to north.

—— On rampart of fort. Fix. green; a *red* light under the *green* when port is accessible.

—— Eastern shore of Frische Nehrung. Two fix. white. Leading lights 95 yards apart.

Fischhausen.—Head of west harbor mole, latitude 54° 43′ N., longitude 20° 1′ E. Fix. white.

Hollstein.—On north side of channel, leading to Konigsberg, latitude 54° 41′ N., longitude 20° 22′ E. Two fix. white, visible 10 miles. In line show direction of channel. A *red* light is shown on south point of channel.

Anker.—Near village, latitude 54° 41′ N., longitude 20° 24′ E. Two fix. white. Leading lights 124 yards apart.

Passarge.—On south mole, latitude 54° 25′ N., longitude 19° 46′ E. Fix. white, visible 6 miles.

Frauenburg.—On north mole, latitude 54° 21′ N., longitude 19° 41′ E. Fix. red, visible 6 miles.

Tolckemitt.—On the mole head, latitude 54° 19′ N.. longitude 10° 33′ E. Fix. white, visible 5 miles.

Succas.—On hill, latitude 54° 17′ N., longitude 19° 26′ E. Two fix. red and white. Leading lights, 550 yards apart. Show *white* in the channel.

Elbing.—East mole end and on shore near west mole, latitude 54° 15′ N., longitude 19° 23′ E. Four fix. white over red. Leading lights into channel. The red lights are 10 feet below the white.

Bruster Ort.—On cape, latitude 54° 58′ N., longitude 19° 59′ E. White, rev. every 4 minutes, visible 20 miles. Not visible when bearing north of northeast.

Nidden.—On Urbe Calis hill, on Kurische Nehrung, latitude 55° 18′ N., longitude 21° 0′ E. White flash every 10 seconds, visible 22 miles.

Memel.—North mole head. Fix. red, visible 7 miles, from NNW., through east, to S. ¼ W.

—— Northeast side of entrance, latitude 55° 44′ N., longitude 21° 6′ E. Fix. white visible 20 miles.

—— Southwest by W. ½ W., 119 yards from above light. Fix. red. In line with main light leads through a channel across Suderhaken bank.

—— Dange River mouth, two fix. red north side, blue south side. From August to May.

Windenburger.—On point, latitude 55° 21′ N., longitude 21° 12′ E. Fix. white, visible 12 miles.

Atmatt Strom.—South side, latitude 55° 21′ N., longitude 21° 17′ E. Two fix, white, visible 5 miles.

Nemonin.—New mole head, latitude 54° 59′ N., longitude 21° 14′ E. Fix. white, visible 5 miles.

Deime River.—West side of entrance, latitude 54° 53′ N., longitude 21° 6′ E. Two fix. red, visible 3 miles. Leading lights in line SSE., 320 yards apart.

Rinderorth.—On point, latitude 54° 54′ N., longitude 21° 4′ E. Fix. white, visible 8 miles.

Rossitten.—On point, latitude 55° 9′ N., longitude 20° 52′ E. Fix. white, visible 6 miles.

BALTIC SEA.—RUSSIA.

Libau.—Entrance of port, latitude 56° 31′ N., longitude 21° 0′ E. Fix. white, with one flash of 5 seconds' duration every minute, visible 12 miles.

—— South jetty, northwest, 850 yards from principal light, latitude 56° 31′ N., longitude 20° 59′ E. Fix. red, visible 6 miles, between SW. by S. by the east to E. by N.

Cape Steinort.—Near extreme, latitude 56° 50′ N., longitude 21° 3′ E. Fix. white, visible 9 miles, between N. 76° E., through E., and S. 19° E.

Backofen.—About one-fourth of a mile from beach, latitude 57° 12′ N., longitude 21° 25′ E. Fl. white, showing three flashes in 30 seconds, visible 19 miles, from 7½° E. to the land northward of light.

Windau.—29 yards from north jetty head, latitude 57° 24′ N., longitude 21° 32′ E. Fix. white, NE. ¼ N. and SW. ¼ S., visible 10 miles. Pilot station.

—— 129 yards from south jetty head. Fix. red, visible 10 miles.

Lyser Ort.—On cape, 1,100 yards inshore, latitude 57° 34′ N., longitude 21° 43′ E. Fix. white, visible 13 miles. The light is changed to *red* when the ice is compact; by day a black ball will be seen upon a flagstaff of the gallery. Visible between the bearings of NE. by E. through south to W. by S. Shown from May 28th to end of navigable season.

Michael Tower.—Near Pissen, latitude 57° 36′ N., longitude 21° 59′ E. Fix. and Fl. white, visible 15 miles. Shows frequent flashes between S. 87° E. and S. 71° E.; fixed between S. 71° E. and S. 53° E.; two flashes in quick succession, followed by a third flash after an interval, between S. 53° E. and S. 33° E.; fixed between S. 33° E. and S. 22° E. (leading about half a mile westward of Rabotrik Bank); frequent flashes between S. 22° E. and S. 16½° W.; and fixed from S. 16½° W. to the shore eastward.

Swalfer Ort.—South point of Osel Island, latitude 57° 55′ N., longitude 22° 4′ E. White, rev. every minute and a half, visible 12 miles, between SW. by W., through north, to SE. by E. A lifeboat station.

Filsand.—West point of island, latitude 58° 23′ N., longitude 21° 50′ E. Fix. white, visible 13 miles between N. ¼ W. to S. ¼ E. Shown from 28th May to end of navigable season. Lifeboat station.

Dome-ness.—Extremity of Dome-ness reef, latitude 57° 48′ E., longitude 22° 39′ N. Fix. white, with flash every 45 seconds, visible 9 miles. Siren and bell in fog. A lifeboat and signal station.

Runo.—Hochberg, SE. elevation of island, latitude 57° 48′ N., longitude 23° 15′ E. Fix. white, visible 12 miles. The lantern only is visible above the trees. Shown during navigable season.

Messaragotsem Point.—North side of the point, latitude 57° 22′ N., longitude 23° 18′ E. White and red alternately every minute, visible, 3 miles.

Dvina River.—On south dike, latitude 57° 3′ N., longitude 24° 1′ E. Fix. white, with flash every half-minute, visible 12 miles. Shown during navigable season. Also two fix. white, S. ¼ by S., 600 yards; leading lights to river entrance. The following night tidal signals will be given by these lights in connection with the white light of the principal light-house: When the depth of water in the channel at river Dvina entrance is 18 feet and above, the white light of Dunamund principal light-house shows white flashes, and the leading lights show *white;* from 18 to 15 feet, inclusive, the white light of the principal light-house shows white flashes, but the northern leading light then shows *red*, and the southern leading light *white;* from 15 to 12 feet, inclusive, the white light of the principal light-house shows white flashes, but both the leading lights show *red.* When below 12 feet, or when from any cause should vessels not use the channel, the white light of the principal light-house shows alternate *white* and *red* flashes, and leading lights not exhibited.

—— Extremity of north dike, latitude 57° 4′ N., longitude 24° 1′ E. Fix. green, visible 6 miles between SE. ¼ S. to E. by N. Shown during navigable season to 15th November.

Kino.—South part of island, latitude 58° 6′ N., longitude 23° 59′ E. White, rev. every half-minute, visible 11 miles.

Pernau.—South shore of river, northwest of town, latitude 58° 23′ N., longitude 24° 31′ E. Two fix. high white, NE. ¼ N., 413 yards; low red. Leading lights between mole heads. High light obscured eastward of NNE. The white light is visible 14 miles and the red 12 miles.

Werder.—West point of island, latitude 58° 34′ N., longitude 23° 31′ E. Fix. white, visible 11 miles from N. 11° W., through east, to S. 37° E.

—— West side of island. Two fix. white, visible 4 miles. Leading lights, visible through an arc of 50°.

Paternoster Island.—Northeast point of island, latitude 58° 33′ N., longitude 23° 27′ E. Fix. and fl. white and red, visible 12 miles. Shows three *red* flashes, between N. 5° W., through west, and S. 12° E.; and one *white* flash every second in all other directions. Bell in fog.

Shiljdau Island.—Southwest point, latitude 58° 38′ N., longitude 23° 26′ E. White, 2 seconds, red 1 second, visible 4 miles.

Moon Island.—Northeast coast, latitude 58° 39′ N., longitude 23° 18′ E. Two fix. white, visible 13 to 15 miles. Leading lights, 484 yards apart, in line bearing S. 13½° E.

Grasor Island.—South end, latitude 58° 58′ N., longitude 23° 6′ E. White 2 seconds, red 1 second, visible 4 miles.

Wormso, entrance to Moonsund.—Saxbiness, northwest point of Wormso, latitude 59° 2′ N., longitude 23° 8′ E. White, with red sector, visible 10 miles. *White* between SW. ¼ W., through south, to SSE. ¼ E.; *red* between SSE. ¼ E. to SE. ¼ S.; and *white* from SE. ¼ S., through east, to NW. by W. The red sector is intended to mark the entrance to Wormso Sound.

North Eistna Point.—West end of Dago, latitude 58° 56′ N., longitude 22° 4′ E. Fix. red, visible 17 miles from N. 24° E. to S. 34° W. When the channel is free of ice the light will be as usual, a fixed *red* light; but should there be drift ice visible from Upper Dagerort, Takhkona Point, or Packer Ort light-houses, the lower light at Cape Dagerort will then show *red* flashes of 2 seconds duration at intervals of about 2 seconds. A black ball is shown from the gallery when there is ice in the Gulf of Finland. Bell in fog.

Dagerort.—Hill near west end of Dago island, 5 miles inland, latitude 58° 55′ N., longitude 22° 13′ E. Fix. white, with flash every minute, visible 24 miles, between NW. ¼ W. and SW. ¼ W.

Takhkona Point.—North end of Dago Island, latitude 59° 5′ N., longitude 22° 36′ E. Fix. white, visible 18 miles, between E. by S. to W. ¼ S.; obscured over Nekman grund on the west, and Anker grund on the east.

Kertel.—Northeast coast of Dago, latitude 59° 0′ N., longitude 22° 46′ E. Two fix. white, visible 5 and 7 miles; leading lights.

GULF OF FINLAND.—RUSSIA.

Odensholm.—Northwest point of island, latitude 59° 18′ N., longitude 23° 23′ E. The light exhibits two white flashes, the one lasting 6 seconds, the other 4 seconds, with 4 seconds interval. Visible 16 miles seaward, between NE. ¼ E. as far as the coast; is therefore masked over Stapelboten grund, and the bank of 15 feet lying to the westward. Bell in fog.

Port Baltic.—East and west sides of harbor. Two fix., red east side, green west side, 24 yards apart, visible 2½ miles. Shown from 1st October to 1st April.

Paker Ort.—On the cape, latitude 59° 23′ N., longitude 24° 38 E. Fix. white, visible 14 miles, between SW. by W. ½ W. and N. by E. ½ E. Shown from 28th May to 13th July. Bell in fog. Ice signals from semaphore:—By day a globe on the topmast, and at night a red light above a white light, indicate Port Baltic open, Revel closed by ice. By day a globe at the yard arm, and at night a white light above a red light, indicate Port Baltic closed by ice, Revel open. By day globe on the topmast, and a globe at the yard arm, and at night two red lights placed vertically, indicate Port Baltic and Revel closed by ice.

Sourop.—North cliff of cape, latitude 59° 28′ N., longitude 24° 24′ E. Fix. white, visible 13 miles, between E. by N. ½ N., through south, to WSW. Shown from 28th May to 13th July.

—— 1½ miles eastward of preceding, latitude 59° 28′ N., longitude 24° 26′ E. Fix. white, visible 8 miles, between W. by S. and W. by S. ½ S. Shown from 28th May to 13th July.

Nargen.—North end of island, latitude 59° 36′ N, longitude 24° 32′ E. White, rev. every minute, visible 13 miles. Shown from 28th May to 13th July. Bell in fog.

Revel-stone.—Light-vessel in 12 fathoms, north side, latitude 49° 43′ N., longitude 24° 45′ E. Two fix. white, visible 6 and 7 miles. By day a yellow flag with blue cross above the balls on mainmast. Whistle in fog sounded 30 seconds at intervals of 1 minute. Black, three masts, two balls.

Revel or Katherindal.—On Mount Laksberg, near Revel marine barracks, latitude 59° 26′ N., longitude 24° 40′ E. Fix. white, visible 14 miles, between S. ½ E. and S. by E. ½ E. From 28th May to 13th July.

—— On Mount Laksberg, behind Katherindal, latitude 59° 26′ N., longitude 24° 50′ E. Fix. white, S. by E. ½ E., 1,167 yards from former, visible 18 miles, between SE. ½ E. to S. by W. From May to July.

—— Naval port—east pass, outer mole head, latitude 59° 27′ N, longitude 24° 48′ E. Fix. white, visible 3 miles. East pass, south mole head, fix. red, visible 3 miles. West pass, outer mole head, fix. white, visible 3 miles. West pass, south mole head, fix. red, visible 3 miles. A *red* light is also shown from the extremity of the breakwater near the naval port.

Kokskir.—On rock, latitude 58° 42′ N., longitude 25° 3′ E. Fix. white, visible 12 miles. Bell in fog.

Ekholm.—Northwest point of island, latitude 59° 41′ N., longitude 25° 49′ E. Fix. white with flash every half-minute, visible 12 miles. Shown from 28th May to 13th July.

Stenskar.—On islet, latitude 59° 49′ N., longitude 26° 23′ E. Fix. white, visible 9 miles, between E. by N. ½ N., through south, to NW. ½ N. Shown during navigable season. Bell in fog.

Rodskar.—On island, latitude 59° 58′ N., longitude 26° 42′ E. White, flashing 17 times every minute, visible 9 miles.

Hogland.—North point of island and on adjacent hill, latitude 60° 6′ N., longitude 26° 58′ E. Two fix. white, S. by W. ½ W., 1,250 yards apart, visible 23 and 7 miles. High light obscured between N. by W. and NW. by N.; the low light is hidden between NE. ½ E. and NW. ½ N. Pilot station. Bell in fog.

—— South point, latitude 60° 1′ N., longitude 27° 2′ E. Fix. red, visible 8 miles, from SW. by W. ½ W. to SE. ½ E. Shown during navigable season. Bell or horn in fog.

Sommars.—West hill of island, latitude 60° 12′ N., longitude 27° 40′ E. White, rev., visible 11 miles. Fog bell.

Nerva.—On island, latitude 60° 15′ N., longitude 27° 58′ E. Fix. white, visible 13 miles. Fog bell.

Seskar.—Northwest point of island, latitude 60° 2′ N., longitude 28° 23′ E. White flash every half-minute, visible 11 miles, between NNE., through south, to NNW. During navigable season. Fog bell.

Narva.—South point of entrance of river, latitude 59° 28′ N., longitude 28° 4′ E. Fix. white, visible 9 miles, between ENE., through east, to S. ½ W. Pilot and semaphore station. Fog bell.

Tolboukin.—On islet, west of Kotlina island, latitude 60° 3′ N., longitude 29° 33′ E. Rev. white, visible 11 miles.

London Shoals.—Light vessel in 6½ fathoms, extremity of shoals, latitude 60° N., longitude 29° 31′ E. Three fix. white, visible 7 miles. The light consists of three lamps, one at the masthead and one at each yardarm. By day a ball at masthead, vertical red and white stripes. Fog bell.

Kronstadt.—Kronslot Islet, south side, St. Nicholas battery, latitude 59° 59′ N, longitude 29° 45′ E. Two fix., upper white, lower red, E. by S., ¼ S. 200 yards apart, visible 9 and 6 miles.

Merchants port, mole heads, latitude 59° 59′ N., longitude 29° 45′ E. Two fix. white, visible 5 miles each. High light, visible from E. by S. ¼ S. to ESE. From August 1st to close of navigation.

On bastion of Kronstadt Harbor, latitude 59° 58′ N., longitude 29° 47′ E. Fix. white and blue, visible 8 and 5 miles respectively. *Blue* from NE. by E. ¼ E. to SSE. ¼ E., and *white* on other bearings. Shown from 1st August to close of navigation. Bell in fog.

Bridge of military port, latitude 59° 59′ N., longitude 29° 47′ E. Two fix. white horizontal, 14 yards apart, visible 4 miles each. Shown from 1st August to close of navigation.

Extremity of steamboat pier, latitude 59° 59′ N., longitude 29° 48′ E. Fix. white, visible 5 miles. Fog bell.

Extremity of steamboat pier, fix. white, visible 5 miles. 1st August to close of navigation.

Oranienbaum.—East mole head, latitude 59° 56′ N., longitude 29° 46′ E. Fix. red, visible 8 miles. Fog bell.

Peterhof.—East pier head, latitude 59° 53′ N., longitude 29° 55′ E. Fix. white, visible 7 miles.

Military port. Three fix., upper white, two lower red, visible 5 miles; leading lights. From 1st August to close of navigation. Fog signal.

Neva.—Light vessels, north side of ship channel to St. Petersburg, latitude 59° 56′ N., longitude 30° 8′ E. Fix. white, visible 7 miles. Hull black; by day a red ball at masthead. Pilot and lifeboat station. Bell in fog. Shown from 1st August to close of navigation.

Elagin.—Light vessel, entrance of north channel to St. Petersburg, latitude 59° 58′ N., longitude 30° 10′ E. Fix. white, visible 8 miles. From 1st August to close of navigation. Bell in fog. Pilot and lifeboat station. Black, white streak, one mast

St. Petersburg.—Sea canal. Lights are shown from the mole heads of, and from light buoys at the entrance to, the sea canal while the navigation is open. Temporary *white* and *red* lights are also shown on the moles of the canal, for the use of vessels of light draft.

Stirs Point.—South entrance to Biorko Sound, latitude 60° 11′ N., longitude 29° 3′ E. Fix. white, visible 12 miles from SE. to NW. by W.

Verko Matala.—Light vessel southeast of shoal, latitude 60° 16′ N., longitude 28° 46′ E. Fix. red, visible 9 miles. Vessel red, Werkkomatala on sides. Fog bell. Pilots' station.

Virta Point.—Latitude 60° 21′ N., longitude 28° 38′ E. Fix. white, visible 7 miles, in fairway of channels between N. 41° W. and N. 54° W., and from S. 32° E. to S. 51° E.

Rondo Holm.—North end, latitude 60° 27′, longitude 28° 23′ E. White and red flashes, visible 5 miles. Shows about fifty flashes every minute, from N. 71° E., through south, to S. 76° E.

Alvati Point.—North extreme of Pei-sari Island, latitude 60° 28′ N., longitude 28° 28′ E. White and red flashes, visible 4 miles. Shows about fifty flashes every minute, from N. 69° E., through south, to S. 69° W.

Stora Fiskaro.—Near Vidskar, latitude 60° 24′ N., longitude 27° 58′ E. White and red flashes, visible 4 miles. Shows fifty flashes every minute, from NNW., through west, to SSE., during navigable season.

Dalskar.—On rock, latitude 60° 29′ N., longitude 27° 57′ E. White and red flashes, visible 5 miles, from N. 36° E. to N. 54° W.

Veit-Kari Rock.—Latitude 60° 16′ N., longitude 27° 15′ E. Red and white flashes, visible 8 miles, from N. 52° E., through west, to S. 38° E.

Kivi Kara-Rock.—Latitude 60° 17′ N., longitude 27° 13′ E. Red and white flashes, visible 7 miles, from N., 51° W., through east, to S. 25° W.

Ranka Holm.—Near beacon, latitude 60° 22′ N., longitude 26° 29′ E. Red and white flashes, visible 8 miles, from N. 76° W., through north, to S. 80° W.

Kotka approach.—Rock near Stava Holm and northwest side of Kuteclo, latitude 60° 26′ N., longitude 27° E. Two flashes red and white, visible 8 miles. Leading lights.

Kauni-sari Holm.—On northern side, latitude 60° 22′ N., longitude 26° 47′ E. Fix. white, visible 8 miles, from N. 82½° E., through south, to N. 79½° W.

Kalbaden Grund.—Light vessel in 9 fathoms, south side, latitude 59° 59′ N., longitude 25° 37′ E. Fix. white, visible 7 miles. Light on mainmast and a ball at the masthead. Horn in fog.

Sedersher or Soder Skar.—On islet, latitude 60° 7′ N., longitude 25° 26′ E. Fix. white, with flash every minute and a half, visible 13 miles, from SE. ¼ S., through north, to SW. ¼ W. Pilot station.

Grohara Holm.—Entrance to Sveaborg, latitude 60° 6′ N., longitude 25° E. White and red flashes, visible 12 miles through an arc of 309°, showing a fixed *red* light through an arc of 200°, or approximately, between NE. by E. ½ E. and W. ¼ S.; a single *red* flash through 50°, or approximately, from NE. by E. ½ E. to N. by E. ¼ E.; a fixed *white* light (leading clear of all shoals) through 9° or from N. by E. ¼ E. to N. ½ E.; and two successive *white* flashes through 50°, or from N. ½ E. to NW. ½ N. A faint light is seen through the remaining portion of arc (51°), or from NW. ½ N. to W. ¼ S. On each side of the arc of 9° through which the fixed *white* light is shown there is a sector of 1½°, within which both the fixed *white* and the flashing lights may be seen, but vessels must not pass beyond the limits of the fived *white* light.

Gustaf Sound.—Rock outside rampart of Gustafsvard Castle and fort at East Svarto, latitude 60° 8′ N., longitude 25° 0′ E. Two alt. white and red, visible 5 miles. Leading lights clear of all shoals.

West side of Bak Holmen. Alt. white and red. Not seen from the southward, until past Oster ground. A *white* light is shown from the refuge station on Halfvag or Hull Holm, between Sveaborg fort and Helsingfors.

Renskar.—On island, 1¾ miles S. ¼ W. of Porkala Point, latitude 59° 56′ N., longitude 24° 25′ E. Fix. white, visible 15 miles, from NE. by E. to W. by N. From 18th March to 13th July. Fog bell. Pilot station.

Hango.—Southeast point of Russer En Island, latitude 59° 46′ N., longitude 22° 57′ E. Fix. white, with three flashes every 2 minutes, visible 12 miles. From May to July. Fog bell and guns. Pilot station.

North extreme of Gustavsvœn Island, latitude 59° 48′ N., longitude 22° 56′ E. Red from SSE. through W. to NW. by W., and white towards roadstead, from SSE. to S. ¼ S. Visible 7 miles. July to April.

Harbor mole head, latitude 59° 49′ N., longitude 22° 58′. E. Fix. green, visible 6 miles, between E. by S. ¼ S and N. by W. ¼ W. Shown from 1st August to 1st May.

On north side of harbor, fix. white, visible 8 miles, between ENE. and N. by W. ¼ W. Leading lights in line NNE.

GULF OF BOTHNIA.—RUSSIA.

Outo or Uto.—West side of island, 59° 46′ N., latitude 21° 22′ E. Fix. white, visible 13 miles, from ESE., through north, to WNW. Fog bell. From August 1 to May 1. Pilot station.

Bogskar.—On western rock, latitude 59° 30′ N., longitude 20° 21′ E. White flash every 15 seconds, visible 16 miles.

Herro Point and Baskar Rock.—Latitude 59° 58′ N., longitude 20° 11′ E. Two fl. white and red. Leading lights.

Huso.—North point, latitude 60° 5′ N., longitude 20° 49′ E. Fl. white and red, visible 9 miles.

Rodskar Holm.—Latitude 60° 7′ N., longitude 21° 19′ E. Fl. white and red, visible 7 miles.

Lagskar.—On north point, latitude 59° 51′ N., longitude 19° 55′ E. Fix. white, visible 11 miles, from S. 49° W., through east, to N. 72° W. Bell in fog.

Botskar.—Near Nyhamn, latitude 59° 58′ N., longitude 19° 57′ E. White and green flashes, visible 6 miles from N. 40° W., through east, to S. 40° E. Shows about fifty flashes every minute.

Kobbak Lintarne.—Near beacon, latitude 60° 2′ N., longitude 19° 53′ E. White and red flashes, visible 5 miles, from 28° E., through east, to S. 41° W. Shows about fifty flashes every minute.

Signilskar.—South end of Hellman Island, latitude 60° 12′ N., longitude 19° 19′ E. Fix. white, visible 5 miles.

Eckero.—West shore of Eckero Island, latitude 60° 13′ N., longitude 19° 33′ E. Fix. white, visible 5 miles July to April.

South Skalskar.—On rock, latitude 60° 25′ N., longitude 19° 34′ E. Rev. white and red alternately every half minute, visible 14 miles during navigable season.

Kopmans Grund.—On islet approach to Abo, latitude 60° 24′ N., longitude 22° 7′ E. Fix. red, visible 6 miles.

Nystad.—On Enskar Island, latitude 60° 43′ N., longitude 21° 1′ E. Fix. white, visible 14 miles, from NE. by E. to SE. by E. Shown during navigable season. Fog bell. Pilot station.

Reilander Grund.—Light vessel about 2¼ cables southeast of shoal, latitude 61° 7′ N., longitude 21° 8′ E. Fix. white, visible 9 miles. Fog bell. Vessel has 2 masts; red ball at foremast head.

Valkiakari Islet.—Latitude 61° 9′ N., longitude 21° 22′ E. Alt. white and red, visible 6 miles, from S. 67° E. to N. 60° W. Light shows thirty flashes every minute.

Bjorneborg.—North side of Sabbskar, latitude 61° 29′ N., longitude 21° 21′ E. Flash. White, visible 16 miles.

Kallo Islet.—Latitude 61° 36′ N., longitude 21° 27′ E. White and red flashes, visible 9 miles. Visible through 73½°, showing two successive *white* flashes between NNE. ¾ E. and NE. ¾ N.; a fixed *white* light from N. ¾ N. to E. by N. ¼ N. indicating the fairway of approach to the fiord; and a flashing *red* light from E. by N. ¼ N. to E. by N. ¼ N. to E. by S. ¼ S., over Trekant ground.

Rafso.—On beacons in fairway, latitude 61° 37′ N., longitude 21° 28′ E. Two fix. outer red, on south side of fairway; inner white on north side, visible 4 miles. In roadstead, fix. white, visible 7 miles.

Harr Grund.—Shoal at entrance of Sidby fiord, latitude 61° 59′ N., longitude 21° 17′ E. Fix. white. Fishing light.

Utterbery Rock.—Latitude 62° 3′ N., longitude 21° 19′ E. Fix. white. Fishing light. August to October.

Kasko.—Skal Grund Island, latitude 62° 20′ N., longitude 21° 11′ E. Fix. red, with flash, visible 16 miles.

Storkalle Grund.—Light-vessel in 11 fathoms, 2 miles westward of centra Ishoal, latitude 62° 47′ N., longitude 20° 48′ E. Fix. white, visible 11 miles. Vessel red red ball on foremast; yellow flag with blue cross. The light is on the foremast. Fog whistle sounded 45 seconds every 3 minutes.

N. Kallan.—On islet, latitude 62° 59′ N., longitude 20° 45′ E. Fix. red, visible 11 miles, from N. 11° E., through east, to S. 8° E.

Quarken.—Norrskar, west islet, latitude 63° 14′ N., longitude 20° 37′ E. Rev. white, visible 12 miles. Bell and gun in fog. Pilot station.

Storskar.—West side of rock, latitude 63° 25′ N., longitude 21° 4′ E. Fix. white, with red flashes twice every 30 seconds, visible 17 miles, from N. 52½° E., through east, and S. 82½° W.

Snipan Shoal (Quarken).—Light-vessel, North Quarken, northwest extremity, latitude 63° 27′ N., longitude 20° 45′ E. Fix. red, visible 9 miles. Fog bell. Vessel, red, yellow flag with blue cross on mainmast, and ball on mizzenmast. Removed about October 20.

Helsingkallan.—Light-vessel north of shoal, latitude 63° 37′ N., longitude 21° 49′ E. Fix. white, visible 10 miles. Red ball at foremast head, yellow flag with blue cross at mainmast head. Fog bell.

Helgrund.—Latitude 63° 39′ N., longitude 22° 26′ E. Fl. white and red, visible 4 miles, from S. 66° E., through south, to N. 14° E. Shows about fifty flashes every minute.

Xpili harbor.—On rock, latitude 63° 50′ N., longitude 23° 1′ E. Fix. white, with red flashes, visible between S. 34° E., through south, to S. 11° W.

Hungerberg Rock.—Latitude 63° 52′ N., longitude 22° 59′ E. Fl. red, visible 7 miles, from N. 21° W. to S. 1° E.

Trutklippan.—On rock, latitude 63° 54′ N., longitude 23° 2′ E. Two Fl. red, visible 6 miles; shows about fifty flashes every minute. Leading lights NW. ¼ W., visible through 45°.

Ulkokalla.—On rock, latitude 64° 20′ N., longitude 23° 27′ E. Fixed white, visible 13 miles.

Uleaborg.—West extreme of Karlo, latitude 65° 2′ N., longitude 24° 34′ E. Fix. white, with flash, visible 12 miles.

Ajos Holm.—West point, latitude 65° 41′ N., longitude 24° 31′ E. Shows *fixed white* from N. 8° E. to N. 16° E; *flashing white* from N. 8° E. to N. 9° W.; and *flashing red* from N. 16° E. to N. 34° E. Visible 8 miles.

Lilla Mayly.—Light-vessel, westward of Plewna shoal, latitude 65° 26′ N., longitude 24° 22′ E. Fix. red, visible 10 miles. Fog bell. Vessel red, yellow flag with blue cross on mainmast, and white flag with blue cross at taffrail. Shown during navigable season. Pilot station.

GULF OF BOTHNIA.—SWEDEN.

Sandskar.—South part of island, latitude 65° 33′ N., longitude 23° 46′ E. Two fix. white, 65 feet apart, visible 5 miles. Leading lights; shown when required during fishing station.

Maloren.—North point of islet, latitude 65° 32′ N., longitude 23° 34′ E. Fix. white, visible 10 miles. Pilot station.

Germundo Islet.—East side of islet, latitude 65° 26′ N., longitude 22° 14′ E. Shows flashing *white* with two flashes between N. 17° W. and N. 8° W.; fixed *white* between N. 8° W. and N. 2° W.; flashing *red* with one flash between N. 2° W. and N. 2° E.; and fixed *red* from N. 2° E. to N. 8° E. Visible 10 and 9 miles. From August 1 to November 15 Fix. white, visible from S. 4° W. to S. 40° W., to guide clear of east point of Badstuskar.

Rodkallen Rock.—Latitude 65° 19′ N., longitude 22° 22′ E. Rev. white, every minute, visible 14 miles.

Stor Rebben.—On islet, latitude 65° 11′ N., longitude 21° 56′ E. Two fix. white, 94 yards apart, visible 6 miles. Fishing lights (occasionally) from August 20 to October 25.

Pit-sund.—West side of channel, latitude 65° 14′ N., longitude 21° 30′ E. Two fix. white, NW.¼ W., 114 yards apart, visible 6 miles. Leading lights. Shown from August 1 till close of navigation.

Leskar.—On rock, latitude 65° 8′ N., longitude 21° 37′ E. Shows a single *white* flash between 18° E. and N. 12° W.; fixed *white* between N. 12° W. and N. 28° W. (this sector leads clear of all shoals to the distance of 1 cable from the light); and two *white* flashes in quick succession between N. 28° W. and N. 67° W. To the northward, in the direction of Pit-sund, the light shows fixed *green* between S. 21° E. and S. 14½° E.; fixed *white* between S. 14½° E. and S. 10½° E. (this sector leads clear of all shoals to the anchorage of Pit-sund); and fixed *red* between S. 10½° E. and S. 3½° E.; obscured in all other directions. Visible 12 miles.

Ronnskar.—Pilot's house, latitude 65° 2′ N., longitude 21° 34′ E. Fixed red, visible 5 miles, between S. 59° W., through west, and N. 48° W., and beween N. 45° W., through north, and N. 76° E. Is obscured through the sector between N. 45° W. and N. 48° W. by a small church situated in front of it. From August 1 to close of navigation.

Gasor Islet.—Latitude 64° 40′ N., longitude 21° 20′ E. The outer light shows a flashing *white* light with two flashes through an arc of 63°, between S. 38° W. and N. 79° W.; a fixed *white* light through an arc of 12°, between N. 79° W. and N. 67° W.; a flashing *white* light with one flash, through an arc of 43° between N. 67° W. and N. 24° W.; and a fixed *white* light of less intensity in all other directions. The inner light is a fixed white light, situated 73 yards westward of the outer light, and kept in line with its leads clear of all shoals between Olsgrund and Ronnskaret, into Scheeren Channel. Visible 12 and 9 miles.

Biuro head.—Near extreme, latitude 64° 29′N., longitude 2° 35′ E. Fix. white, visible 18 miles, from SE. through west to NE. by E.

Gran Island.—Gumboda fiord, latitude 64° 12′ N., longitude 21° 6′ E. Intended.

Ratan.—Western shore, latitude 63° 59′ N., longitude 21° 55′ E. Two fix. inner red, outer white, 50 yards apart; visible 5 miles, between N. by E. and WNW. Bell in fog.

Stora Fiaderagg.—Summit, latitude 63° 48′ N., longitude 21° 1′ E. White rev., with a flash of 30 seconds every 2 minutes visible 14 miles, between NNE. and ESE.

Berg Point.—On point, west side of Holmo, latitude 63° 47′ N., longitude 20° 52′ E Fix. white, visible 10 miles, between N. 31° E. (leading westward of shoals off the coast of Holmo group), through east, and S. 34° W. (leading west of Lilhallan); most powerful between N. 43° E. and S. 23° W.

Holmo Gadd.—South Gadden, latitude 63° 36′ N., longitude 20° 46′ E. Fix. white, visible 12 miles, from SW. ¼ W., through north to SSW. ¼ W. A strong glare when bearing NNE. ¼ E. to mark the Gaddsnytan shoals. Gun in fog every 15 minutes, and in answer to vessels firing guns.

Bredskar Sound.—On island, latitude 63° 40′ N., longitude 20° 20′ E. Two fix. white, visible 3 miles.

Sydost Brotten.—Light-vessel, 2½ miles from south edge, latitude 63° 19′ N., longitude 20° 9′ E. Fix. white, visible 10 miles. Vessel red, with two masts, red ball on mainmast. Horn in fog.

Skags Point.—On Graklubb rock, off the point, latitude 60° 12′ N., longitude 19° 2′ E. Fl. white, visible 12 miles. Visible from SW. ¼ S. through west and north, to ENE. Bell in fog.

Malmo Island.—Southwest point, latitude 63° 12′ N., longitude 18° 55′ E. White between N. 35° W. (on this bearing it is obscured by Malmo Klubb), and N. 4° E. (leading eastward of Rodfla); and red from N. 4° E. to N. 62° E.; a faint white light within fairway of channel. Visible 7 and 4 miles. From August 1 to December 1.

Lungo.—Southeast point of island, latitude 62° 38′ N., longitude 18° 6′ E. Fix. white, with flash, visible 12 miles.

Herno.—East point of island, latitude 62° 36′ N., longitude 18° 4′ E. Fix. red, visible 5 miles, from N. 11 W. to S. 18° E.

Draghall.—On rock, entrance to Sundsvall sound, latitude 62° 20′ N., longitude 17° 28′ E. Shows a single *white* flash between N. 35° W. and N. 50° W.; fixed *white* between N. 50° W. and N. 64° W. (this sector leads clear of all shoals to the distance of 1 cable from Draghall rock); and two *white* flashes in quick succession between N. 64° W. and S. 75° W. In a northwest direction, a sector of *white* light is shown between S. 22° E. and S. 27° E, leading clear of the coast of Alno and of Fabo shoal, but not of Tiuf holm; in all other directions is obscured. Visible 12 miles.

Bremo.—Northeast point of island, at entrance to Sundsvall, latitude 62° 13′ N., longi- 17° 45 E. Fix. white, visible 16 miles, from SE. through west to NE. by N. Pilot station.

Gran Island.—Near center, latitude 62° 1′ N., longitude 17° 39′ E. White flash every 5 seconds, visible 16 miles.

Agon.—East point of island, entrance to Hudiksval fiord, latitude 61° 33′ N., longitude 17° 29′ E. Fl. white, visible 15 miles, from N. 54° E., through W. to S. 37° E.

Saltviks Udde.—West entrance to Hudiksvall fiord, latitude 61° 40′ N., longitude 17° 16′ E. Shows *red* flashing with one flash between N. 20° W. and N. 28½° W.; fixed *white* between N. 26½° W. and N. 28½° W.; and *white* flashing with two flashes between N. 28½° W. and N. 32½° W. The fixed white light leads between the sea marks clear of all shoals. Visible, 10 miles.

—— On beacon, near battery point. Fix. white. Both shown from August 1 to December 15.

Lill-Jungfrun Islet.—North end of Norrutharet Reef, latitude 61° 15′ N., longitude 17° 19′ E. Alt. red and white. Fixed red over and southward of Finngrund. From August 1 to December 15.

Soderhamn Harbor.—South point of Skuggskar and south point of Brandskar. Two fix. white, ESE. and WNW. 292 yards. Visible only through a small arc. From August 1 till closed by ice.

Stor Jungfrun.—On northeast part of island, approach to Soderhamn, latitude 61° 10′ N., longitude 17° 21′ E. Fix. white, visible 14 miles, from SE. by E. ½ E. through west to NE. ½ N. Pilot station.

East Finngrund.—Light-vessel northeast of bank, latitude 61° 2′ N., longitude 18° 31′ E. Fix. white, visible 10 miles. Vessel red, two masts, red ball on mainmast. Bell in fog.

West Finngrund.—Southwest edge of bank, latitude 60° 54′ N., longitude 17° 56′ E. Fix. red, visible 8 miles. Siren.

Gasholmen.—Southward of Gas Holm; latitude 61° 1′ N., longitude 17° 14′ E. Alt. red and white, visible 5 miles.

Trodiehallen.—On rock, latitude 60° 49′ N., longitude 17° 22′ E. Alt. red and white, visible 5 miles.

Bonan.—Near custom-house, north channel to Gefle, latitude 60° 44′ N., longitude 17° 19′ E. Fix. white, with red sector, visible 6 miles. *Red* from N. 65° W. to S. 65° W. From August 15 to December 31.

Gefle Bay.—Near Nydal, latitude 60° 42′ N., longitude 17° 15′ E. Two fix. white, visible 7 miles. Leading lights in line W. by S. ¼ S. From August 1 till close of navigation.

Gefle.—Skenshal, latitude 60° 41′ N., longitude 17° 13′ E. Fl. red, white, and green, visible 5 miles.

Eggegrund.—West end of islet, latitude 60° 44′ N., longitude 17° 33′ E. Fix. white, visible 12 miles. Gong in fog.

Skutars harbor.—Northwest point Madero, latitude 60° 39′ N., longitude 17° 24′ E. Fix. red, visible 4 miles.

Bjorn.—On rock, latitude 60° 38′ N., longitude 17° 59′ E. Two fix. white, northwest, 39 yards apart, visible 10 miles.

Orskar.—On northwest point of island, latitude 60° 32′ N., longitude 18° 23′ E. White revolving, visible 16 miles.

Oregrund Bay.—Large gas-buoy vessel, latitude 60° 28′ N., longitude 18° 17′ E. Fix. white, visible 8 miles. *Gropen* in white letters on her sides. Not shown from 24th May to 24th July.

Djuraten in Ore Grundsgropen.—West point of Graso island, latitude 60° 22′ N., longitude 18° 24′ E. White and red, visible 12 miles. In the northern channel the light is visible through an arc of 30° between S. 37° E. and S. 7° E., showing a flashing *white* light with two flashes between S. 37° E. and S. 25° E. (over Lansman grund); a fixed *white* light between S. 25° E. and S. 16° E. (to Engelsk grund); and a flashing *red* light with one flash from S. 16° E. to S. 7° E. (to Graso isle). The southern channel light is a fixed *white*.

Grundkallen.—Light-vessel eastward of north part of Grundkallen shoal, latitude 60° 30′ N., longitude 18° 55′ E., two fix. white, visible 10 miles; when right ahead or astern the lights may show as one. Whistle in fog. Vessel red; two masts, one light and red ball on each.

Karingo rock.—East point, latitude 60° 18′ N., longitude 18° 32′ E. Alt. red and white; visible northward and southward.

Understen in the S. Quarken.—On rock, latitude 60° 16′ N., longitude 18° 55′ E. Fix. white, visible 14 miles, from ENE. through west to SSE ¼ E. The following signals are shown by day: A black double cone shown over the red globe signifies that neither Grundkalle and Finngrund light-vessels are at their stations; the black double cone shown alone, signifies that Finngrund light-vessel is not at her station, and the red globe shown alone that the Grundkalle light-vessel is not at her station. It is intended to increase the light between N. by W. and NE. by E., and between SE. by S. and S. by W. Fog siren, sounded nine times in three minutes.

Market Rock.—Latitude 60° 18′ N., longitude 19° 8′ E. White occ. every 6 seconds, visible from N. 2° E. through east, to S. 87° W. Visible 11 miles.

Tolfor.—Northeastern islet, latitude 60° 15′ N., longitude 18° 37′ E. Int. white and red. 1st August to 15th December.

Gas Sten.—On islet, latitude 60° 12′ N., longitude 18° 47′ E. Two fix. red, 213 yards apart. Leading lights between Gas Sten and Stangskar, shown from 1st August until pilots leave their station.

—— North side of northern lighthouse. Fix. red, visible in channel to northward.

Svartklubben, in S. Quarken.—On rock, latitude 60° 10′ N., longitude 18° 50′ E. White rev., three flashes every 2 minutes, visible 12 miles, from SE. by E. ¼ E. through west, to N. by E. ¼ E. Red globe hoisted if Oregrunds Grepen passage is beset with drift or fast ice. Horn in fog.

Grisselhamn.—On beach, latitude 60° 6′ N., longitude 18° 49′ E. Fix. white, visible 4 miles.

Simpnas Klubb.—On Skomataren, latitude 59° 54′ N., longitude 19° 5′ E. Fix. white, visible 12 miles. Fog bell.

Naskubben.—East side of Bjorko, latitude 59° 53′ N., longitude 19° 5′ E. Fix. red, visible 5 miles, from S. ¼ W., through west, to N. by E.

BALTIC SEA.—SWEDEN.

Soderarm.—Tollskar, near old beacon, latitude 59° 45′ N., longitude 19° 24′ E. White rev. every 2 minutes, visible 14 miles, from E. by S., through south and west, to NNE. Pilot station.

Botoeskar Islet.—Latitude 59° 44′ N., longitude 19° 11′ E, Alt. white and red, visible E. and W. August to December.

Kapelsk.—On rock, miles seaward of Furu Sound, latitude 59° 43′ N., longitude 19° 5′ E. Int. white and red.

Tyfo Islet.—Latitude 59° 46′ N., longitude 19° 8′ E. Alt. white and red, visible N. and S. August to December.

Svedudden (near).—Latitude 59° 51′ N., longitude 19° 5′ E. Alt. white and red, visible N. and S. August to December.

Yxlan Rock.—Latitude 59° 40′ N., longitude 18° 57′ E. Rev. white and red. 1st August to close of navigation.

Staboudde.—Latitude 59° 34′ N., longitude 18° 38′ E. Alt. white and red. 1st August to 15th December.

Niquarn Holm.—On islet, latitude 59° 31′ N., longitude 18° 30′ E. Alt. white and red. 1st August to 15th December.

Garpen Skerry.—On rock, latitude 59° 22′ N., longitude 18° 23′ E. Alt. white and red. 1st August to 15th December.

Lindalen Sound.—On shoal, latitude 59° 25′ N., longitude 18° 30′ E. Alt. white and red. 1st August to 15th December.

Galt Holm.—On skerry, latitude 59° 23′ N., longitude 18° 41′ E. Alt. white and red. 1st August to 15th December,

Kofoten Holm.—On southeast side, latitude 59° 13′ N., longitude 18° 37′ E. Alt. white and red. 1st August to 15th December.

Vattklubben.—On rock, latitude 58° 50′ N., longitude 17° 45′ E. Alt. white and red. 1st August to 15th December.

Kraskar.—Eastern rock, latitude 58° 21′ N., longitude 17° 45′ E. Alt. white and red. 1st August to 15th December.

Svenska Bjorn.—Light-vessel, northeast of shoal, latitude 59° 35′ N., longitude 19° 48′ E. Two fix. white, horizontal, visible 10 miles. Vessel red, two masts with a red ball on each. Siren in fog.

Waxlet.—On rock, latitude 59° 35′ N., longitude 18° 44′ E. Int. white and red, visible 4 miles. August to December.

—— On shoal south of rock, flash white and red, visible 3 miles. Leading light. August to December.

Svenska Hogarne.—Storo, latitude 59° 27′ N., longitude 19° 30′ E. Flash white and red alternately every half minute, visible 14 miles. Fog gun every 15 minutes.

Klofholmen.—On islet, latitude 59° 22′ N., longitude 18° 46′ E. Flash white and red, visible 6 miles. *White* over fairway, *red* to westward. Shown from 1st August to 15th May.

Gronskar.—Sandhamn entrance to Stockholm, latitude 59° 17′ N., longitude 19° 2′ E. Fix. white, visible 6 miles.

Sandhamn entrance to Stockholm.—Sando island pilot station, latitude 59° 18′ N., longitude 18° 55′ E. Visible 10 miles, through an arc of 20°, showing a flashing *red* light with one flash between N., 39° W. and N. 46½° W.; a fixed *white* light between N. 46½° W. and N. 49° W.; and a flashing *white* light with two flashes between N. 49° W. and N. 59° W.

—— One mile southeastward of main light. Leading light, green seaward, red towards Sandhamn, visible 2 miles.

Oranieholm.—On islet in Tral Hafvet, latitude 59° 27′ N., longitude 18° 24′ E. Int. white and red, August to December.

Waxholm.—On beacon, latitude 59° 24′ N., longitude 18° 21′ E. Fix. white. From 1st August to 15th December.

Brodstycket Rock.—Latitude 59° 27′ N., longitude 18° 23′ E. Int. white and red. From 1st August to 15th December.

Faklubben.—Near Galnoport, latitude 59° 23′ N., longitude 18° 38′ E. White and red. From 1st August to 15th December.

Yxhammarkubb.—Northeast point, latitude 59° 19′ N., longitude 18° 48′ E. White and red. From 1st August to 15th December.

Langholm.—Southwest point, latitude 59° 18′ N., longitude 18° 45′ E. White and red. From 1st August to 15th December.

Stendorren.—Stenkaringen rock, latitude 59° 11′ N., longitude 18° 30′ E. Int. white and red. August to April.

Lilla Rotholm rock.—Latitude 59° 4′ N., longitude 18° 20′ E. Int. white and red. From 1st August to 31st December.

Soderhall.—On rock, latitude 59° 1′ N., longitude 18° 15′ E. Alt. white and red. From August to December.

Hufvudskar.—On rock, latitude 58° 58′ N., longitude 18° 34′ E. F. and fl. white, visible 12 miles.

Masknuf.—On rock, Dalaro channel, latitude 58° 51′ N., longitude 18° 1′ E. Fix. white, visible 9 miles, from SW.¾ W., through east, to N. by E.

Wicksten.—Rock, northwest point, latitude 58° 48′ N., longitude 17° 57′ E. Alt. white and red, visible 7 and 5 miles, in the fairways northward and southward. From August to April.

Landsort.—South point of island, latitude 58° 45′ N., longitde 17° 52′ E. White with *red* flash every minute, visible 18 miles. Fix. green in same tower, visible from NW. by W. to NNE. Pilot station. Fog-gun.

Roko.—On rock, south side of channel, latitude 58° 47′ N., longitude 17° 47′ E. Int. white and red.

Svarta Hallen.—On rock, latitude 58° 52′ N., longitude 17° 40′ E. Alt. white and red, visible 5 and 3 miles.

Stenskar.—On rock, latitude 58° 54′ N., longitude 17° 43′ E. Fl. white and red, visible 5 and 3 miles. July to December.

Boko Sund.—On Oxno, latitude 58° 51′ N., longitude 17° 36′ E. Fix. white, visible 5 miles. Two *red* and *white* leading lights are also shown for navigating the sund.

Linasund.—In channel, latitude 59° 13′ N., longitude 17° 38′ E. Four fixed white. From August to close of navigation.

Bockholm Sound.—On shoal, latitude 59° 17′ N., longitude 17° 40′ E. Rev. red and white. August to December.

Safo Sound.—In front of pilot shelter, latitude 58° 46′ N., longitude 17° 29′ E. Fix. white and green, *white* to northward, *green* to southward. From 15th July to 15th December.

Skepna.—In channel, latitude 58° 48′ N., longitude 17° 21′ E. Fl. white and red, visible 5 miles. July to December.

Espskarklubb.—Latitude 58° 43′ N., longitude 17° 19′ E. Fl. red and white, visible 3 and 5 miles. This and the two following lights are leading lights, and are shown from 15th July to 15th December.

Ornklubb.—Fl. red and white, visible 2 and 4 miles.

Walaro.—Fl. white and red, visible 5 and 3 miles.

Ledskar.—West side of islet, latitude 58° 42′ N., longitude 17° 14′ E. Fix. white, visible 5 miles. A *red* light is shown below the white light, visible eastward.

Oxelo Sound.—Pilots' house, latitude 58° 40′ N., longitude 17° 8′ E. Fix. white, in direction of Ledskar light.

—— Near harbor, fixed red, visible 4 miles, and flash white, visible 5 miles. Leading lights, 330 yards apart; kept in line bearing N. 33° W. lead to harbor. August to close of navigation.

Femorehufvud.—On Cape Femoro, latitude 58° 39′ N., longitude 17° 7′ E. Fix. white, visible 5 miles. Gong in fog.

Bafringe.—On islet, latitude 58° 36′ N., longitude 17° 19′ E. Fix. white, visible 8 miles.

Losingskar.—Southeast point of islet, latitude 58° 38′ N., longitude 16° 16′ E. Alt. white and red. This and the Hvitskar flash white lights are leading lights, and shown from 15th July to 15th December.

Hvitskar.—In channel, flash white, visible 2 miles.

Kopparbo.—Latitude 58° 39′ N., longitude 16° 28′ E. Alt. red and white, visible 3 and 5 miles; leading light.

Stora Juten.—Latitude 58° 38′ N., longitude 16° 20′ E. Fl. white and red, visible 5 and 3 miles. July to December.

Alen.—On skerry, latitude 58° 33′ N., longitude 17° 3′ E. Fix. white and red, visible 9 and 6 miles. July to December.

Logen.—On skerry, latitude 58° 32′ N., longitude 17° 1′ E. Fl. white and red, visible 4 and 2 miles. July to December.

Lundo.—On islet, latitude 58° 30′ N., longitude 17° E. Fl. white and red, visible 5 and 3 miles. July to December.

Etter Sound.—Latitude 58° 26′ N., longitude 16° 41′ E. Two fixed white, visible 5 miles. July to December.

Stegeborg.—Pier on south side, latitude 58° 26′ N., longitude 16° 36′ E. Fix. white July to December.

Stora koppar-holmen.—West point, latitude 58° 28′ N., longitude 16° 58′ E. Alt. white and red, visible 5 and 3 miles. Leading lights. From 15th July to 15th December.

Svartvits-berget.—South part of Arko, latitude 58° 29′ N., longitude 16° 58′ E. Fix. white, visible 5 miles.

Mam.—Gotha Channel entrance, latitude 58° 29′ N., longitude 16° 25′ E. Fix. white. July to December.

Haradskar.—Islet, southwest extremity, latitude 58° 9′ N., longitude 17° E. White with flash, visible 20 miles.

Koppar Stenarne.—Light vessel, northwest of shoal, latitude 58° 35′ N., longitude 19° 8′ E. Fix. white, visible 10 miles. Red, two masts. Siren in fog four times every minute.

Gottska Sando.—North part of island, latitude 58° 23′ N., longitude 19° 13′ E. Two white, fix. and fl., N. 5° W. 263 yards, visible 16 miles. The northern light shows flashes from S. 5° E., the direction of the leading line, to S. 17° W. Visible from N. by E. ¼ E. through S. to W. by N. ¼ N. When in one they bear S. ¼ E. and lead 1 mile to the westward of the southwest, most part of Koppar Stenarne shoal.

—— Southeast point of island, latitude 58° 20′ N., longitude 19° 18′ E. Fl. red, every 5 seconds, visible 11 miles from about E. to S. 50° W., where the land admits.

Sparo Islet.—On southern part, latitude 57° 42′ N., longitude 16° 44′ E. Fix. white, with red flashes, visible 12 miles, from N. through W. to S.

Stickskar.—On islet, latitude 57° 43′ N., longitude 16° 45′ E. Alt. white and red, visible 5 and 3 miles.

Ido Islet.—Latitude 57° 43′ N., longitude 16° 43′ E. Fl. white and red. Red eastward of broom beacon (Kaltrefvet), white westward of beacon. Visible 5 and 3 miles.

Stangskar.—On islet, latitude 57° 40′ N., longitude 16° 48′ E. Fix. white, visible 5 miles.

Bussen.—On islet, latitude 57° 39′ N., longitude 16° 46′ E. Fix. red with white sector to southward between Great and Little Krahan beacons. Visible 5 and 3 miles.

Soen.—On rock, latitude 57° 27′ N., longitude 16° 45′ E. Alt. white and red, visible 5 and 3 miles. April to December.

Gottland Island—Faro Island.—Holmudden, latitude 57° 57′ N., longitude 19° 22′ E. Rev. white, visible 16 miles, from SE. through W. to NE. Gong, fog signal, and gun in fog.

Enholmen.—Fort on southeast side of Enholmen, latitude 57° 42′ N., longitude 18° 51′ E. Shows red to the westward (or landward) as far as a line drawn towards Gothems spit, including Searfgrund, lying southward of Enholmen; to the northward and eastward a faint red light, with alternate red and white flashes; to the southeastward the light is partially obscured by Mago. August to May.

Ostergarn.—On northwest end of island, latitude 57° 26′ N., longitude 19° 0′ E. Fix. white, visible 14 miles. Fog bell.

Grynge.—Latitude 57° 23′ N., longitude 18° 51′ E. Two fix. white, visible 6 miles. Fishing lights, August to December.

Hvitvar.—Latitude 57° 21′ N., longitude 18° 45′ E. Two fix. white, visible 10 miles. Fishing lights, August to December.

Gamlehamn.—Latitude 57° 20′ N., longitude 18° 45′ E. Two fix. white, visible 8 miles. Fishing lights, August to December.

Ljugarn.—Near mole, latitude 57° 19′ N., longitude 18° 45′ E. Alternate white and red, visible 6 and 4 miles, between W. by S. and NW. ¼ W. From August to May.

Svajde.—Latitude 57° 19′ N., longitude 18° 43′ E. Two fix. white, visible 6 miles, N. and S. 35 yards apart. August to December.

Langbjenne.—Latitude 57° 19′ N., longitude 18° 42′ E. Two fix. white, visible 8 miles, N. and S. 39 yards apart.

Nabben.—Latitude 57° 16′ N., longitude 18° 45′ E. Two fix. white, visible 6 miles. Fishing light, 1st August to 24th December.

Hammarnas.—Latitude 57° 15′ N., longitude 18° 45′ E. Fix. white, visible 4 miles. Fishing light, 1st August to 24th December.

Djupdy.—Latitude 57° 15′ N., longitude 18° 42′ E. Two fix. white, visible 5 miles, N. and S. 39 yards apart. Fishing light.

Narsholmen.—Islet, latitude 57° 13′ N., longitude 18° 41′ E. Fl. white, six flashes every minute, visible 12 miles.

—— In same tower, fix, white, visible 8 miles, from SSW. to SSW. ¼ W.

Kapelle.—Latitude 57° 13′ N., longitude 18° 41′ E. Two fix. white, N. and S. 66 yards, visible 4 miles. Fishing lights.

Herta.—Northeast harbor, latitude 57° 13′ N., longitude 18° 39′ E. Two fix. white, NNW. and SSE. 24 yards apart, visible 4 miles. Southwest harbor, two fix. white, NNW. and SSE. 18 yards apart, visible 3 miles.

Tomteboda.—Latitude 57° 11′ N., longitude 18° 34′ E. Two fix. white, N. and S. 37 yards, visible 5 miles. Fishing light.

Hus Island.—Latitude 57° 10′ N., longitude 18° 31′ E. Two fix. white, NNW. and SSE. 33 yards, visible 5 miles. Fishing light.

Nystrand.—Latitude 57° 10′ N., longitude 18° 31′ E. Fix. white, visible 5 miles. Fishing light.

Djupkrok.—Latitude 57° 8′ N., longitude 18° 26′ E. Fix. white, visible 4 miles. Fishing light.

Flunting.—Latitude 56° 6′ N., longitude 18° 25′ E. Two fix. white, visible 6 miles. Fishing light.

Tubod.—Latitude 57° 2′ N., longitude 18° 23′ E. Fix. white, visible 3 miles. Fishing light.

Faludden.—Southeast extreme, latitude 57° N., longitude 18° 26′ E. Fix. red, visible 8 miles, from SE. through W. and N. to NE. Lifeboat and rocket station. Gun in fog.

Omundsbod.—Latitude 56° 59′ N., longitude 18° 23′ E. Two fix. white, NW. ¼ W. 81 yards apart, visible 5 miles.

Rumsbod.—Fishing station, latitude 56° 58′ N., longitude 18° 21′ E. Two fix. white, Northwest 153 yards apart, visible 4 miles.

Vandborg.—Fishing station, two fix. white, N. 39 yards apart, visible 5 miles. Fishing lights.

Hoburg.—On mount, latitude 56° 55′ N., longitude 18° 11′ E. Rev. white, visible 16 miles, from W. by S., through N. to S. by W.

Klasens.—Latitude 56° 57′ N., longitude 18° 12′ E. Fix. white, visible 6 miles. Fishing light.

Bjerges.—Latitude 56° 58′ N., longitude 18° 12′ E. Fix. white, visible 5 miles. Fishing light.

Grumpe.—Latitude 56° 59′ N., longitude 18° 14′ E. Fix. white, visible 2 miles. When fishermen are out.

Vestland.—Latitude 57° N., longitude 18° 14′ E. Fix. white, visible 5 miles. When fishermen are out.

Vakten.—Latitude 57° 6′ N., longitude 18° 13′ E. Fix. white. Fishing light.

Marboda.—Latitude 57° 7′ N., longitude 18° 13′ E. Fix. white. Fishing light.

Nyork.—Latitude 57° 10′ N., longitude 18° 9′ E. Two fix. white, SSW. and NNE. 13 yards. Fishing lights.

Alsvik.—Latitude 57° 10′ N., longitude 18° 10′ E. Fix. white. Fishing light.

Klasvik.—Latitude 57° 15′ N., longitude 18° 11′ E. Fix. white, visible 3 miles. Fishing light.

Kronvall.—Latitude 57° 17′ N., longitude 18° 8′ E. Two fix. white, visible 9 miles, E. by N. and W. by S., 49 yards.

Great Carlson.—West side of island, latitude 57° 17′ N., longitude 17° 58′ E. Fl. white three times in succession, visible 20 miles. Obscured when bearing W. by N. ¼ N.

Djupvik.—Latitude 57° 18′ N., longitude 18° 10′ E. Two fix. white, visible 8 miles. When fishermen are at sea.

Valborgsboda.—Latitude 57° 20′ N., longitude 18° 12′ E. Two fix. white, N. by E. 34 yards apart, visible 4 miles.

Utholmen.—West part of island, latitude 57° 26′ N., longitude 18° 7′ E. Fixed white between N. 42° W. and S. 5½° E.; fixed red between N. 42° W. and N. 85° W.; and flashing white every 2 seconds, from S. 5½° E., over Skarlakansgrunde shoal to the land.

Valbyte.—Latitude 57° 26′ N., longitude 18° 11′ E. Two fix. white, N. and S. 27 yards apart, visible 2 miles. Fishing light.

Bilboe.—Two fix. white, NW. by W. and SE. by E. 29 yards apart, visible 3 miles. Fishing lights.

Wisby.—South end of breakwater, latitude 57° 38′ N., longitude 18° 19′ E. Fix. red, visible 6 miles, from September to December.

Stenkyrkehuk.—On point, latitude 57° 49′ N., longitude 18° 30′ E. Fl. white, twice every half minute, visible 18 miles, between N. 41° E. and S. 52° W.

Lickershamn.—Latitude 57° 50′ N., longitude 18° 33′ E. Two fix. white, N. and S. 39 yards, visible 5 miles. Fishing light.

Olands N., Udde.—Bironabben Rock, east of northwest point of island, latitude 57° 22′ N., longitude 17° 6′ E. Fix. white, visible 16 miles, from E. through S. to NW.

Kappel Point.—Near extreme, latitude 56° 49′ N., longitude 16° 51′ E. Fl. white, every 6 seconds, visible 14 miles.

Segersta.—Near village, latitude 56° 22′ N., longitude 16° 34′ E. Fl. red, every 5 seconds, visible 14 miles.

Sodra Udde.—South point of island, latitude 56° 12′ N., longitude 16° 24′ E. Shows fixed over Kalmar Sound, between S. 4° W. and S. 11° E.; two flashes between S. 11° E. and S. 16° E.; fixed between S. 16° E. and S. 11° W.; and a single flash between S. 11° W. and S. 4° W.; visible 18 miles. Gun in fog.

Ispe Udde.—On point southwest Borgholm, latitude 56° 45′ N., longitude 16° 31′ E. Shows two flashes between N. 50° E. and N. 60° E. (the eastern limit of this sector indicates the position of Prestor reef); fixed white between N. 60° E. and N. 70° E.; fixed red between N. 70° E. and S. 18° E.; and fixed white between S. 18° E. and S. 30° W.; visible 9 miles.

Borgholm.—Krak point, latitude 56° 52′ N., longitude 16° 38′ E. Fix. white, visible 10 miles, toward Kalmar Sund. Two *red* harbor lights are also shown near Borgholm.

Furon—Northeast point, latitude 57° 17′ N., longitude 16° 38′ E. Shows *red* between S. 45° E., through S. to S. 56° W. (on this bearing it leads eastward of Ronn Reef and other outlying shoals); white showing single flashes between S. 56° W. and N. 67° W. (on this bearing it leads ¼ mile northward of Jungfrau Island); and fixed *white* through remaining portion of arc, and visible from 7 to 11 miles. Shown from 1st March to 15th December. When pilots are obtainable a black ball with horizontal white stripe will be hoisted on a mast on the east gable of house.

Homkallan.—Northern side of entrance to Oscarshamn, latitude 57° 16′ N., longitude 16° 29′ E. Fl. white and red, visible 10 and 6 miles respectively.

Ovadersudden.—Southern side of entrance to Oscarshamn. Fl. white and red, visible 6 and 4 miles.

Damman Shoal.—Kalmar Sound, latitude 57° 3′ N., longitude 16° 41′ E. Fl. white, every 40 seconds, visible 10 miles. Obscured through an arc of 22° between W. and WNW. March to December. Gong in fog.

Skagganas.—East point of peninsula, latitude 55° 46′ N., longitude 16° 29′ E. Fix. white, visible 9 miles.

Grimskar.—Near Kalmar, latitude 56° 39′ N., longitude 16° 22′ E. Two fix. and Fl. white and red, visible 13 and 8 miles. Upper light shows a single *red* flash between N. 49° E. and N. 31° E.; a fixed *white* light from N. 31° E. to N. 19° E., and a double *white* flash from N. 19° E. to N. 1° E. Lower light shows a double *white* flash between S. 32½° W. and S. 36½° W.; fix. *white* from S. 36½° W. to S. 38° W.; single *red* flash from S. 38° W. to S. 48° W., and a fixed *red* from S. 48° W. to S. 58° W. Fog horn.

—— Twenty yards northeast of the above, fix. white between N. 3° E. through W., and S. 80° W.; red between S. 80° W. and S. 60° W.; and white between S. 60° W. through S. and S. 30° E. The limits of the sectors are not distinctly defined.

Utgrunden.—Light vessel, westward of shoal, latitude 56° 21′ N., longitude 16° 15′ E. Fix. red, visible 8 miles. Fog siren gives two blasts every minute. Vessel red, two masts, with balls.

Utlangan.—Southern extreme, latitude 56° 1′ N., longitude 15° 47′ E. Fix. white and red, visible 10 miles. *White* between S. 54° W. through W. and N. 27° W.; *red* between N. 27° W. through N. and N. 59° E.; and *white* between N. 59° E. through E. and S. 54° E.

Utklippor.—On southern rock, latitude 55° 57′ N., longitude 15° 42′ E. Fix. white, with red flash between S. 21° E. and S. 60° W., visible 16 miles. Bell in fog.

Carlskrona.—Tower on Godnatt Rock, outer road, latitude 56° 8′ N., longitude 15° 33′ E. Shows to the southward two *white* flashes between N. 18° E. and N. 23° E.; fixed white between N. 23° E. and N. 26° E., indicating the fairway channel to Carlskrona outer road; and a *red* flash between N. 26° E. and N. 37° E. To the westward, a fixed *white* between N. 85° E. and S. 85° E., indicating the western channel to Carlskrona (within this sector the light is obscured by land). On the north side of Godnatt light-house a harbor light is shown, which, with the gas light near the royal marine wharf at Carlskrona, marks the Getskar and Basare shoals, and leads through the channel to the inner road, and anchorage for merchant vessels. White visible 16 and red 21 miles. Harbor light shown from 1st August to 15th May.

—— East extremity of great steamboat pier, fix. green; extremity of northern bridge of boats, fix. red. These lights kept in line lead through the deepest channel from the merchant vessels' road to the great steamboat pier, and are shown from August to May.

Torno.—If berget, south point of island, latitude 56° 7′ N., longitude 14° 58′ E. Alt. red and white, visible 4 to 6 miles, between SE. by S., through N., to SW. by W.

Carlshamn.—Latitude 56° 10′ N., longitude 14° 52′ E. White N. by E. 228 yards, visible 8 miles, between N. ¼ W. and N. ¼ W. Fix. red, visible 5 miles, from N. ¼ E. to N. by W. ¼ W.; leading light.

—— End of breakwater. Fix. green, visible from N. 11° W. to N. 30° W.

Hano.—On summit of island, latitude 56° 1′ N., longitude 14° 51′ E. Fix. white, with red flash, visible 14 miles.

Kivik.—Latitude 55° 41 N., longitude 14° 14′ E. Two fix. red and white, SW. by S., 81 yards apart, visible 4 miles.

Cimrishamn.—South side of Hano Bay, latitude 55° 33′ N., longitude 14° 22′ E. Alt. red and white, visible 6 and 4 miles from N., through W., to E. by S.

—— Near pier, two fix., outer green, inner red, visible 4 miles. Leading lights into harbor.

Skellinge.—Mole head, latitude 55° 29′ N., longitude 14° 17′ E. Fix. red and white, visible 3 to 5 miles. Fishing light; the *red* light is from WNW. to NNW. Shown from 15th July to 1st December.

Sandhammaren.—On cape, latitude 55° 23′ N., longitude 14° 11′ E. Two fix. white, NNW. 243 yards, visible 16 miles.

Ystad.—In the town, latitude 55° 25′ N., longitude 13° 50′ E. Fix. white, NE. by N. 423 yards, visible 12 miles; not seen when bearing to the southward of ENE.

—— West pier head. Fix. red, visible 8 miles; also illuminates the east mole head.

Smyge.—On point, latitude 55° 20′ N., longitude 13° 22′ E. Fl. red and white, every 5 seconds, visible 13 miles. Obscured by wood at Ostra Torp from S. 88° W. northward for about 9°.

Trelleborg.—In harbor, on quay, latitude 55° 22′ N., longitude 13° 9′ E. Two fix. red, NNE. ¼ E. 385 yards, visible 6 miles.

NORWAY.

Hæg holm.—West point of islet, latitude 59° 53′ N., longitude 10° 43′ E. Fix. red, visible 6 miles, from ENE. to E., and from SE. ¼ S. to W. ¼ S. Bell in fog, fifteen times and twice, alternately.

Dynen.—On rock, latitude 59° 54′ N., longitude 10° 42′ E. Fix. white, visible 8 miles, between W. by S., through W. and ENE., the former bearing leading southward of Herbergene, and the latter southward of Vashon Fluene. Bell in fog. From 15th July to 31st May.

Nœsodtangen.—On Bo shoal, latitude 59° 52′ N., longitude 10° 40′ E. Fl. white, visible 4 miles, in fairway N. and S.

Steilene.—Middle of island, latitude 59° 49′ N., longitude 10° 36′ E. Fix. white, visible 8 miles, from NNE. ¼ E., through E. and S. to SW. ¼ S. Bell in fog. From 15th July to 31st May.

Digerudgrund.—On point, latitude 59° 43′ N., longitude 10° 36′ E. Fix. white with red sector, visible 8 miles, from SSE. through E. to N. ¼ W. *Red* between N. ¼ E. to NE. ¼ E. Bell in fog. July to May.

Drobak.—Balcony of custom-house, latitude 59° 39′ N., longitude 10° 38′ E. Fix. red, visible 6 miles, between N. ¼ E. and SSE. From 15th July to 31st May.

Filtvedt.—On point, latitude 59° 34′ N., longitude 10° 37′ E. Fix. white, visible 6 miles, from SSW. through W. and N. to NE. Fog bell. Shown from 15th July to 3 1st May.

Rodtangen.—East side of entrance to Drams Fiord, latitude 59° 31′ N., longitude 10° 26′ E. Fix. white, visible 6 miles, from NE. by N. through N. and E. to SSE. ¼ E. From 15th July to 31st May.

Sau holm.—South side of islet, latitude 59° 31′ N., longitude 10° 41′ E. Occ. white and red, visible 5 miles.

Basto.—Northeast point of island, latitude 59° 23′ N., longitude 10° 33′ E. Fix. white, visible 8 miles, from SSE. through S. and W. to N. by E. ½ E. Shows *red* over Hortens reef.

Moss.—East side of canal, latitude 59° 26′ N., longitude 10° 39′ E. Fix. red, visible 3 miles. October to April.

Horten.—Northern extremity of mole arm, latitude 59° 25′ N., longitude 10° 30′ E. Fix. red, visible from N. and E.

—— Canal pier. Fl. white, visible 5 miles, from N. 53° E. to S. 18° W. Shows *red* over Hortens reef. Shown from 15th August to 15th April.

Ravlingen.—South side of islet, latitude 59° 24′ N., longitude 10° 38′ E. Alt. red and white, visible 5 miles.

Torgerso.—Northwest point of island, latitude 59° 15′ N., longitude 10° 30′ E. Fix. red, visible 6 miles, E. by S. ½ S. through S. and W. to WNW. Shown from 15th July to 31st May.

Fulehuk.—Middle of island, latitude 59° 11′ N., longitude 10° 36′ E. Fix. white, with flash, visible 12 miles. Fog bell.

Torgauten I.—South point, latitude 59° 9′ N., longitude 10° 50′ E. Fix. white, with red sector, visible 10 miles. The northern limit passes nearly over Hollœnderbo. Shows *red* across the Strutskrak shoals, or between E. ½ S. and E. ½ N.

Leiesteen.—South point of islet, latitude 59° 9′ N., longitude 10° 30′ E. Occ. white with red sector. Leading light. From 15th August to 30th April.

Færder.—On Little Ferder or Tristenen, latitude 59° 2′ N., longitude 10° 32′ E. Fix. white, visible 21 miles. Fog horn.

Torbjornskiær.—Center of island, latitude 59° N., longitude 10° 47′ E. Fix. white, with red flashes, visible 15 miles.

Homlungen.—On north side of island, latitude 59° 1′ N., longitude 11° 2′ E. White between E. by S. ½ S., through north, and W. by N. ½ N. (this leads southward of Pillaren), and red between E. by S. ½ S. and ESE. Visible 8 miles.

Kiste holm.—Near south end, latitude 59° 4′ N., longitude 10° 15′ E. Alt. red and white. August to April.

Asnaes.—On point, latitude 59° 6′ N., longitude 10° 15′ E. Fix. red and white. Leading light. August to April.

Svenoer.—Southeast part of island, latitude 58° 58′ N., longitude 10° 9′ E. Int. white, visible 15 miles. Red sector between N. 79½° E. and S. 87½° E.

Stavœrnso.—South point, east side to channel entrance to Fredriksvœrn, latitude 58° 59′ N., longitude 10° 3′ E. Fix. white, visible 6 miles, between N. 56½° E., through west to S. 5½° W., but partly hidden by a portion of Ris Island. Shows *fixed white* in the fairways, *flashing* or *fixed red* in other directions. Shown 15th July to 31st May.

Langotangen.—South point of Lango Island, entrance to Langesund, latitude 58° 59′ N., longitude 9° 46′ E. Fix. white and red, visible 10 miles. Shows *white* between NNE. and NNW. ½ W., and *red* when bearing eastward of NNE. or westward of NNW. ½ W.; is obscured to northward. Bell in fog.

Thorsberg.—Latitude 59° 7′ N., longitude 9° 37′ E. Alt. white and red, visible 5 miles. From August to April.

Jomfruland.—On middle of low, wooded island, latitude 58° 52′ N., longitude 9° 36′ E. Rev. white, visible 18 miles.

Galbiodden.—Near Kragero Harbor, latitude 58° 52′ N., longitude 9° 25′ E. Fix. red in channel between Hammerboen and Buttebeen, white in other directions; visible 4 miles.

Stafteng.—Near village, 58° 51′ N., longitude 9° 28′ E. Fix. red, visible 7 miles.

Stromtangen.—Near Rabbet Point. Fix. red, visible 6 miles. This with Stafteng light lead through Strangebe Channel.

Risor or Stangholm.—East point of island, latitude 58° 43′ N., longitude 9° 15′ E. Fix. red, visible 7 miles.

Lyngoer.—Southwest extreme of Kjeholmen, latitude 58° 38′ N., longitude 9° 9′ E. Fix. red with flash, visible 14 miles.

Skindfeld Point.—Near extreme, latitude 58° 31′ N., longitude 8° 57′ E. Occ. white and red, visible 5 miles.

Hvidebjerg.—Fix. white, visible 8 miles. This and the above are leading lights. August to April.

Torungen Islands.—South or Outer Torungen and north or Inner Torungen, latitude 58° 24′ N., longitude 8° 48′ E. Two fix. white, NNE. and SSW., 1,200 yards apart, visible 18 to 20 miles.

Sandvigodden.—West side of entrance to Arendal, latitude 58° 26′ N., longitude 8° 47′ E. Fix. white and red, visible 10 miles, from S. ½ E., through W., to NE ½ E. Shows *red* to the eastward, and *white* to the westward of the bearing N. ½ W., or from one and a half cables from the west point of Mardo and the east point of Inner Torungen, respectively.

Lille Skotholmen.—East side Galte Sound, latitude 58° 27′ N., longitude 8° 47′ E. Fix white, visible between N., through E. and S.; not seen until Sandvig Point has been passed. From August to May.

Stangholmen.—Latitude 58° 18′ N., longitude 8° 36′ E. Fl. white and red, visible 3 miles, from N. 31° W., leading half a cable W. of Haakalboen, and N. 68° E., leading S. of Saleskjœr and Helleskjœr.

Haaven.—4 cables N. 39° E. from Stangholmen. Fix. red, visible 3 miles, in direction of Stangholmen, and about one point on each side. Leads between Stenene and Haabœn.

Rivingen.—4¼ cables N. 13° W. from Stangholmen. Fix. white, visible 3 miles, over Riving deep from N. 12° W. to N. 9° E.; and inward from the west side of Flade-Riving to eastward of Furu-holmbo. August to April.

E. Trillingholmen.—Latitude 58° 19′ N., longitude 8° 35′ E. Fix. green in the channel outward, white inward.

Homborgsund.—Southwest extreme of Storegronningen, latitude 58° 15′ N., longitude 8° 32′ E. Fix. white, with four flashes every minute, visible 15 miles.

Lillesand.—On Saltholm, west side of harbor, latitude, 58° 15′ N., longitude 8° 23′ E. Fix. and fl. white, visible 10 miles. Visible seaward between N. 36° W. (leading half a cable westward of Malmgrund) and N. 19° E. (leading 1 cable eastward of Reierskjaergrund and Urholmgrund). Nebgrund lies at the edge of the limit of the light. Over Nordboern and Langboen, and about 1 cable's length on each side, the light is flashing; but in the channels on each side, between Reierskjaergrund and Langboen, and between Nordboern and Malmgrund, it is a fixed light. Also leads into Lillesand Harbor. A fixed red is shown from custom-house at Lillesand.

Oxo.—On south end of island, entrance to Christiansand Fiord, latitude 58° 4′ N., longitude 8° 4′ E. Fix. white, visible 18 to 20 miles.

Gronningen.—Summit of outer islet, latitude 58° 5′ N., longitude 8° 6′ E. Fix. red, visible 9 miles, from NW. to SSE. Bearing northwest leads seaward of Sraetingboen shoal; and south-southeast leads westward of Outer Kerkebo and Dversoboen patches.

Oddero.—On southwest point of island in Christiansand Fiord, latitude 58° 8′ N., longitude 8° 0′ E. Fix. white, visible 9 miles, from N. by W. ½ W. to NW.

Ryvingen.—Southwest end of islet, latitude 57° 58′ N., longitude 7° 29′ E. Fix. white with red flash, visible 18 miles.

Hatholm.—South point of island, latitude 58° 0′ N., longitude 7° 27′ E. Fix. white, visible 10 miles from N. by E. ½ E., through W. and S. to SSE.

Naze of Norway.—On cape, latitude 57° 59′ N., longitude 7° 3′ E. Fix. and fl. white, visible 12 and 22 miles.

South Katland.—Katland Isle, southwest point, latitude 58° 3′ N., longitude 6° 50′ E. Visible 10 miles. White between NE. (this leads eastward of Fœoflue and Fœrokalven shoals) and N.; red between N. and NNW. ½ W. (over the positions of East Roholm flue and West Brodsten shoals); and white NNW. ½ W. to W. Toward the northward of Proœsto Sund shows white between SE. by E. ½ E. and S. ½ W. A white sector is shown through an arc of 5° in the direction of Fœrokalven; Rœvkraaka (which is clear of danger on the south and west sides) is nearly in the center of this sector.

Engels Holmen.—Latitude 58° 14′ N., longitude 6° 40′ E. Alt. white and red, visible 5 miles. August to April.

Lister.—Gunnarshang, west point of Lister Land, latitude 58° 6′ N., longitude 6° 34′ E. Fl. white, visible 18 miles.

Varnas.—On south point of entrance to Lister Fiord, latitude 58° 11′ N., longitude 6° 38′ E. Fix. white, visible 9 miles, from NE. ½ E., through E. and S., to W. ½ S.

Vibberodden.—West side of south entrance to Ekersund, latitude 58° 27′ N., longitude 6° 0′ E. Shows a white between N. 27½° E. and N. 11½° E., and a fix. white from N 11½° E., through W. to S. 10½° W.; visible 11 miles.

Ekero—.On west point of Midtbrod Island, latitude 58° 26′ N., longitude 5° 52′ E. Fix. white, visible 20 miles.

—— Grundsund Holm. Fix. white, visible 9 miles, from NE. by E. ½ E. to E. ½ N.

Oberestadbrekke.—On summit of point, latitude 58° 39′ N., longitude 5° 33′ E. Fix. white, with flash, visible 17 miles. The southeast limit of light falls about 1 mile west of Haar. Lifeboat station.

Lille Feisten.—On southeast point of island, latitude 58° 49′ N., longitude 5° 31′ E. Fix. red, with white sector from NE. ½ E. to SSW., visible 9 miles.

Fladholm.—Northwest point of island, latitude 58° 55′ N., longitude 5° 34′ E. Fix. white, visible 8 miles, from SW. by W., through S. and E., to NNE. ½ E.

Tungenœs.—North side of point, latitude 59° 2′ N., longitude 5° 35′ E. Fix. white, visible 8 miles from E. by N. ½ N., through S. and W., to within 1 cable's length of the southwest point of Bru. July to May.

Stavanger.—Valberg tower, latitude 58° 58′ N., longitude 5° 44′ E. Fix. white, visible 4 miles. September to March.

Lindo.—North point of island, latitude 59° 0′ N., longitude 5° 49′ E. Fix. white, visible 5 miles, from N. 62° E., through S. to N. 84° W. Red sector from S. to S. 16° W. August to April.

Dusevig.—Varnæs Point, latitude 59° 0′ N., longitude 5° 41′ E. Fix. white, visible 6 miles. September to March.

Heidihgeo.—South side of island, latitude 59° 3′ N., longitude 5° 24′ E. Occ. white, with two red sectors, visible 16 miles.

Fjeldo.—On island, latitude 59° 5′ N., longitude 5° 34′ E. Fix. white, with red sectors from NNE. to N. ¼ W., and from SE. ¼ S. to SE. by S., visible 8 miles. From 15th July to 15th May.

Vighalm.—Near Skudesnes, latitude 59° 8′ N., longitude 5° 17′ E. Fix. red, visible 6 miles, from N. ¼ E., through W., to S. ¾ E.; the SE. limit falls 1½ cables east of Ostbom. From 15th July to 15th May.

Skudesnæs.—At southeast point of Karmo, latitude 59° 8′ N., longitude 5° 18′ E. Fix. white, visible 11 miles, from SW. ¼ W., through W. and N., to NE. by N.

Bukn.—East side of West Bukn Island, latitude 59° 13′ N., longitude 5° 28′ E. Fix. white, visible 4 miles. July to May.

Kobbervig.—North side of entrance, latitude 59° 17′ N., longitude 5° 19′ E. Alt. red, visible 3 miles, between W. by S. ¾ S. and NW. ¼ N. From 15th July to 15th May.

Helsesrde.—South point of harbor, latitude 59° 19′ N., longitude 5° 19′ E. Fix. white, visible 8 miles, from SE. ¾ S., through S. and W., to NE. by N. ¼ N.

Udsire.—West side of island, latitude 59° 18′ N., longitude 4° 53′ E. Two fix. white, NW. ¼ W. and SE. ¼ E., 113 yards apart, visible 18 miles.

Feo.—Southeast point of South Vindkjœftholm, latitude 59° 23′ N., longitude 5° 11′ E. Fix. white, with red sector in the direction of and to half a cable on each side of Gangvarskjer. Visible 9 miles, from E. ¼ N., through N. and W., to SSW. From 15th July to 15th May.

Sorhaugo.—On rock, north entrance to Haugesund, latitude 59° 25′ N., longitude 5° 15′ E. Fix. white, with flash between S. 34½° E. and S. 10½° E., visible 9 miles.

Gittero.—On island, latitude 59° 26′ N., longitude 5° 7′ E. Fix. white, visible 6 miles, from S. ¼ W., through W. and N., to NE. by E. ¾ E. From 1st October to 31st March.

Bygandena.—On point, latitude 59° 32′ N., longitude 5° 14′ E. Fix. white, visible 8 miles. From July to May.

Espevær.—Sange, islet south entrance of harbor, latitude 59° 35′ N., longitude 5° 9′ E. Fix. white, visible 6 miles.

Lille Blegen.—East side of Bommelo, latitude 59° 37′ N., longitude 5° 15′ E. Fix. white, visible 8 miles, from S. by W. ¾ W., through W. and N. to NE. by E. ¾ E. From 15th July to 15th May.

Midtholmen.—Mosterhavn, latitude 59° 42′ N., longitude 5° 24′ E. Fix red, visible 6 miles, from S. by W. ¼ W., through W. and N., to NE. ¾ E. From July 15th to 15th May.

Lervig.—Southeast coast of Stordoen. Fix. white, visible 9 miles from NE. by E. to SSW. From July to May.

Folgero.—South side of entrance to Folgerohavn, latitude 59° 48′ N., longitude 5° 19′ E. Alt. white and red, visible 8 miles, from S. ¼ E., through S. and W., to N. ¼ W. From 15th July to 15th May.

Ringholm.—East point, latitude 59° 53′ N., longitude 5° 13′ E. Fix. white, visible 10 miles, between S. ¾ E., through W. and N. ¾ W. From 15th July to 15th May.

Slottero.—On island, south entrance of Selbjorns Fiord, latitude 59° 54′ N., longitude 5° 4′ E. Fix. white, visible 18 miles seaward and from the fiord.

Gabaynes.—East side of Selbjorneo, latitude 59° 59′ N., longitude 5° 14′ E. Fix. white, with red sector between NE. ¼ N. and N. ¼ E. in direction of Engesund Channel, visible 8 miles. From 15th July to 15th May.

Pin Holme.—Bagholm Sound, latitude 60° 5′ N., longitude 5° 11′ E. Fix. white, visible 8 miles. From July to May.

Mangen.—On highest part of island, latitude 60° 8′ N., longitude 5° 1′ E. Fl. red every 20 seconds, visible 17 miles.

Lene.—Northwest side of island, latitude 60° 14′ N., longitude 5° 10′ E. Fix. white, visible 8 miles. From July to May.

Fladen.—Rock, near Raugnene, latitude 60° 16′ N., longitude 5° 11′ E. Fl. white and red, visible 3 miles, from N. 44° E., through E. to S. 32° W. From 15th August to 30th April.

Stromhellen.—Extremity of point, latitude 60° 20′ N., longitude 5° 11′ E. Fix. white and red. *Red* between N. 42° W. (indicating Helleren shoal) and N. 22° W. (leading about 1 cable westward of Aarholmen); and *white* from N. 22° W., through N. and E., to S. 42° E. (leading southward of Bratholmen). The direction in which change of color occurs indicates mid-channel.

Bergen.—On mole, latitude 60° 24′ N., longitude 5° 18′ E. Fix. red, visible 4 miles. From 15th August to 30th April.

North Parisholm.—Near Sjellanger Narrows, latitude 60° 34′ N., longitude 4° 59′ E. Fl. white, visible 3 miles in fairway. From 15th August to 30th April.

Sjelanger.—Holseno Island, northwest side, latitude 60° 37′ N., longitude 4° 57′ E. Fix. white, visible 9 miles. Serves as a guide to vessels taking the north passage to Bergen. Visible between S. ¼ E. and N. by E. ¾ E.

Helliso.—On island, latitude 60° 45′ N., longitude 4° 43′ E. Fix. white, with flash, visible 19 miles.

Bratholm.—Near Ronglevaro, latitude 60° 48′ N., longitude 4° 48′ E. Fix. white, with red sector, visible 8 miles, from E. ¼ S. through N. and W. to S. ¼ W.; the *red* sector marks the southern channel entrance, and is seen from seaward between N. by E. ¼ E., and NNE. ¾ E. From July to May.

—— Latitude 61° 2′ N., longitude 4° 45′ E. Fix. white and red, visible 5 miles. From August to April.

Olderkalven.—Stensund, latitude 61° 8′ N., longitude 4° 45′ E. Fl. white, visible 5 miles. From August to April.

Drevosund.—Latitude 61° 12′ N., longitude 4° 48′ E. Fix. white, visible 5 miles. From 15th August to 30th April.

Yttero.—On islet, latitude 61° 34′ N., longitude 4° 41′ E. Fix. and fl. white, visible 20 miles.

Kinn.—Southeast side of island, latitude 61° 34′ N., longitude 4° 47′ E. Fix. white, visible 8 miles, between SW., through W., to N. by E. ¾ E. From 1st August to 15th May.

Stabben.—On island, latitude 61° 36′ N., longitude 4° 57′ E. Fix. white and red, visible 9 miles; *red* light towards Floro from W. by N. ¼ N. to W. by N. ¼ N. From August to May.

Smorhavn.—Southwest point of Fiskholm, latitude 61° 46′ N., longitude 4° 56′ E. Fix. white and red, visible 9 miles; *red* from SE. ¾ E. to SE. by E. ¼ E., and *white* from the latter bearing to W. by S. August to May.

Kalvekolm.—Skate-Strommen, latitude 61° 52′ N., longitude 5° 14′ E. Alt. white and red, visible 5 miles.

Eiso.—Southwest point, latitude 61° 53′ N., longitude 5° 11′ E. Fl. white, visible 5 miles, from half a cable north of Skate-Strommen, through N., to S. 7¼° W. From August to April.

Moldo.—West side of islet, latitude 61° 56′ N., longitude 5° 8′ E. Fl. white, visible to northward and southward.

Ulvesund.—East side of sund, latitude 61° 59′ N., longitude 5° 10′ E. Fix. white, visible 8 miles, between S. ¼ W. and WSW.; also between S. by E. and E. by S. ¼ S., indicating the anchorage in Skare Bay.

Skongsnæs.—Northeast point of Vaagso, latitude 62° 2′ N., longitude 5° 8′ E. Fix. and fl. red, visible 9 miles, from SE. by E., through S. and W., to NNW.; between the shoals of Kraaka and Melsfluer, it shows a flash and eclipse alternately; otherwise it is fixed. From 1st August to 15th May. Bell in fog.

Haugsholm.—West part of island, latitude 62° 10′ N., longitude 5° 23′ E. Fix. white, with red sectors, visible 10 miles. *White* between S. by E. ¼ E. (through E., N., and W.), and W. by S. ¼ S., except between SE. ¼ S. and SE. by E., also from W. ¼ N. to W. ¼ S., where it shows *red*. From August to May.

Aaramholm.—Latitude 62° 12′ N., longitude 5° 30′ E. Fl. white, visible 4 miles, from N. 58° W. to S. 54° E.

Flaavar.—Varholm Flaavar, latitude 62° 19′ N., longitude 5° 36′ E. Shows fl. white from northward of Sando Island to N. 86° E.; fix. white from N. 86° E. to S 88° E., indicating the channel; and fix. red from S. 88° E. to Skorpeh Island; in all other directions fix. white, visible 11 miles.

Troldholmen.—Latitude 62° 21′ N., longitude 5° 37′ E. White from N. 23° W. to N. 40° W.; red from N. 40° W. to N. 50° W. Visible 4 miles. From 25th January to 8th April.

Rundo.—Northwest point of island (Kvalnæs), latitude 62° 25′ N., longitude 5° 36′ E. Fix. white, visible 20 miles.

—— Northeast point of island (Langenoes), latitude 62° 24′ N., longitude 5° 40′ E. Fix. white, visible 5 miles, from S. 20° E. to N. 21° W. Fishing light, from 25th January to 8th April.

Grœsholmen.—South side of Bred sund, latitude 62° 26′ N., longitude 5° 46′ E. Obscured from N. 73½° W. to N. 58½° W. Shows fix. white in other directions except as follows: quick fl. white from S. 84½° E. to S. 67½° E.; fix. red from S. 51½° E. to S. 44½° E.; quick fl. white from S. 29½° E. to S. 16½° E.; and fix. red from S. 4½° E. to S. 1½° W. Visible 10 miles. August to May.

Hogsten.—Southeast point of Godo (Bred Sound), latitude 62° 68′ N., longitude 6° 2′ E. Fix. and fl. white, visible 12 miles.

Alnæs.—Northwest point of Godo Island, latitude 62° 29′ N., longitude 5° 58′ E. Fix. white, with green sector from SE. to SE. by S. Visible 8 miles from NE. by E., through E., S., and W. to NW. by W.

Aalesund.—On mole, latitude 62° 28′ N., longitude 6° 9′ E. Fix. red, visible 4 miles. From August to May.

Valderhaug.—Southeast point of Valdero, latitude 62° 30′ N., longitude 6° 8′ E. Fl. red, visible 6 miles, from N. 67° E. through N., to S. 72° W. From 1st August to 15th May.

Vikero.—Synæs Point, latitude 62° 32′ N., longitude 6° 1′ E. Fix. white, visible 8 miles, from WNW., through N. and E. to S. by W. ¼ W. From 25th January to 8th April.

Erkno.—Center of island, latitude 62° 33′ N., longitude 5° 57′ E. Fix. red, visible 8 miles, from N. by E. ¼ E., through E. and S. to W. ¼ S. From 25th January to 8th April.

Rosholm.—Latitude 62° 36′ N., longitude 6° 4′ E. Fix. white, visible 8 miles, from N. by E. ¼ E. through S., to W. by N. ¼ N. From 3d January to 8th April.

Lepsorey.—Head of mole at Gamleimshaug, latitude 62° 35′ N., longitude 6° 15′ E. White from N. 68° E. to S. 39° W.; red from S. 39° W. to S. 59° W.; white from S. 59° W. to S. 68° W. Visible 9 miles. From 1st August to 15th May. Bell in fog.

—— Near Ellevik, latitude 62° 38′ N., longitude 6° 10′ E. Fix. white. Fishing light. From January to March.

Ulla.—On Kvœrnholm, latitude 62° 41′ N., longitude 6° 10′ E. Fix. white, visible 8 miles. Red sector between S. by W. ¼ W. and SSW. Visible from NE. by E. seaward and in towards Ulle Sound. January to April.

—— At fishing station, latitude 62° 40′ N., longitude 6° 12′ E. Fix. white and red, visible 5 miles. Guide through the boat channel cut across the bar Ullabarren. The direction of the channel is about NE. and SW. The light is placed on the middle line of the channel extension, and shows *red* on the eastern side of the channel, *white* on the western side, and *red* seaward between S. by E. (leading 1 cable westward of Flemsbo or Flemsboen), and SSE. ¼ E. (leading 1 cable eastward of Shaaken). Shown from 25th January to 8th April.

Fjertoft.—On SW. shore, latitude 62° 42′ N., longitude 6° 20′ E. Fix. white, visible 5 miles, from S. 37° W. to N. 78° W., 2½ cables' length southward of Bredfluen; and from N. 53° W., 1 cable's length southward of Skipperskallerne, to N. 49° E. Shown from 5th January to 8th April.

Kvaloklub.—Latitude 63° N., longitude 6° 31′ E. Red from N. 38° W. to N. 44° W., white thence to N. 57° W., visible 4 miles. From 15th January to 8th April.

Ona.—Ona Kalv, latitude 62° 52′ N., longitude 6° 33′ E. Fix. white, with red flash, visible 18 miles. August to May.

Bjorn Sund.—Eastern part of Mooen, latitude 62° 54′ N., longitude 6° 49′ E. Fix. white, with red sectors, visible 9 miles. *White* from N. 78° E. to S. 31° E.; *red* from S. 31° E. to S. 26° E.; *white* from S. 26° E. to S. 37° W.; *red* from S. 37° W. to S. 48° W., and *white* from S. 48° W. to N. 34° W. The southern limit passes close westward of northern Kaal Rocks.

Kvithholm.—Northwest point of island, latitude 63° 1′ N., longitude 7° 14′ E. Fix. white, with flash every minute, visible 18 miles, from NNE. ¼ E. through S. to NW. The fixed light is eclipsed at 8 miles distant.

Lille Sando.—Fugle Channel, latitude 63° 3′ N., longitude 7° 24′ E. Fix. white between S. 35° E. to S. 2° W., visible 5 miles. From 25th January to 8th April.

Hest Islet.—Latitude 63° 5′ N., longitude 7° 30′ E. Fix. and fl. white and red, visible 15 miles. Shows fixed *white* through navigable channels, and flashing *white* or fixed *red* over dangerous ground.

Stavnæs.—Northeast point of Avero, latitude 63° 7′ N, longitude 7° 40′ E. Fix. white, visible 9 miles, from ESE. through S. and W. to NW. ¼ W. From 1st August to 15th May.

Baltsernes.—Latitude 63° 6′ N., longitude 7° 43′ E. Fix. white, visible 9 miles. Visible from S. 41° E. to S. 33° E.; from N. 35° E. to S. 85° E.; and from S. 25° E. to S. 61° W. From 1st August to 15th May.

Kvitnœs Point.—Latitude 63° 8′ N., longitude 7° 49′ E. Red between ENE. and SE. by S., white between SE. by S. and S. by W. ¼ W., and red between S. by W. ¼ W. and WSW., visible 9 miles. August to May.

Ringholm.—Rock off northeast point of Eddo, latitude 63° 19′ N., longitude 8° 14′ E. Fix. white, visible 9 miles.

Rodberg.—From post-house, latitude 63° 30′ N., longitude 10° 4′ E. Fix. white, visible 4 miles. August to May.

Terningen.—On island, latitude 63° 30′ N., longitude 9° 3′ E. Fix. white from N. 86° E. through N. to S. 78° W., and red from S. 78° E. to S. 75½° E., visible 9 miles. From 1st August to 15th May.

Boroholm.—At east end of Hitteren, latitude 63° 34′ N., longitude 9° 14′ E. Fix. white with red sector, visible 9 miles, between S. by W. ¼ W., through W., and E. by N. ¼ N,; red sector between SW. and SSW. ¼ W., covering Sliskjer. Shown from 1st August to 15th May.

Bejan.—On West Bejanhaug, latitude 63° 69′ N., longitude 9° 35′ E. Fl. white; leads about half a cable southward of Smellingsflua. From 1st September to 14th April.

Agdenas.—On point, latitude 63° 38′ N., longitude 9° 45′ E. Fix. white, visible 8 miles, into and out of Trondhjem Fiord. Shown from 1st August to 15th May.

Munk Holm, Trondhjem.—On fortress, latitude 63° 27′ N., longitude 10° 24′ E. Fix. white, visible 8 miles, from SW. ¼ S. through N. to S. by E. ¼ E. Shown from 1st August to 15th May.

Kjeurns Rock.—Latitude 63° 44′ N., longitude 0° 35′ E. Fix. white and red, visible 11 miles. *White* in the channel across Granvigen between N. 41° E. (this bearing leads clear of shoals and rocks of Kjeldsgrunden, Espelandstarren, and Lysbottenfluen), and N. 36° E. (this bearing leads westward of Rodsiden, Ribefluen, and Rugmelsfluen); *red* between N. 36° E. and N. 30° E. (this bearing leads 1 cable's length westward of Smerlingfluen); *white* between N. 13° E. and S. 86° W. (this bearing leads southward of Biugnholm and adjacent shoal ground); *red* between S. 86° W. and S. 30° W. (this bearing leads half a cable westward of Biugnskjæret); *white* between S. 30° W. and S. 77° E. (this bearing leads half a cable northward of Taarnholmen). From August to May.

Likua Islet.—Latitude 63° 56′ N., longitude 9° 54′ E. Fix. white, visible 5 miles. Leading light. September to April.

Stegilholm Islet.—Latitude 64° 9′ N., longitude 10° 11′ E. Two fix. white, visible 6 miles. Kept in line lead between the shoals in Linnæus Fiord. Shown from 1st September to 14th April.

Marflesa Kraaka.—On rock, latitude 64° 10′ N., longitude 10° 9′ E. Fix. and occ. white and red, visible 5 miles. Leading light. Shown from 1st September to 14th April.

Besager Islet.—Latitude 64° 15′ N., longitude 10° 19′ E. Alt. white and red, visible 5 miles. Leading light.

Halten Island.—Lundo, latitude 64° 10′ N., longitude 9° 27′ E. Fl. white, visible 18 miles. From August to May.

Rodo.—On north Rodo summit, latitude 64° 22′ N., longitude 10° 27′ E. Fix. white and red, visible 11 miles. From August to May.

Villa Island.—Latitude 64° 33′ N., longitude 10° 42′ E. Fix. white, with flash, visible 18 miles. Pilot station.

Gjæslingerne.—On Haraldso Kraaka rock, latitude 64° 44′ N., longitude 10° 51′ E. Fix. white and red, visible 11 miles. *White* between E. by N. ¼ N. and N. by E. ¼ E.; *red* between N. by E. ¼ E. and NW. by N.; *white* between NW. by N. and W. ¼ S., and *red* between W. ¼ S. and W. by S. ¼ S. August to May.

Præsto, Næro Sund.—On islet, latitude 64° 47′ N., longitude 11° 8′ E. Fix. white, visible 9 miles, between NE. by E. ¼ E. through E. and S. to SW. ¼ W. From 1st August to 15th May.

Rusvær.—On islet, latitude 64° 58′ N., longitude 11° 34′ E. Fl. white. From 1st September to 14th April.

Melsten.—On islet, latitude 65° 11′ N., longitude 11° 52′ E. Fix. white and red, visible 6 miles. Shows *white* in the channels. Shows from 1st September to 14th April.

Jernholmen.—North side of entrance to Somnæs Harbor, latitude 65° 22′ N., longitude 12° 12′ E. Red on easterly and southeasterly bearings, white towards harbor. Visible 3 miles; obscured in northern part of Torgfiord. Shown from 15th August till 30th April.

Buholm, Bronosund Entrance.—North side of island, latitude 65° 28′ N., longitude 12′ 13′ E. Fix. white, visible 8 miles, from S. ¼ W. to W. by N. ¼ N., and from NNE. ¼ E. to E. by S. ¼ S. From August to April.

Vivelstad.—Farm house on east side of sound, latitude 65° 42′ N., longitude 12° 28′ E. Fix. red, visible 6 miles, in Vevelstad Sound from the northward and southward, but in the northern inlet it is obscured eastward of a line passing 1 cable westward of Snertholmtarren. From August 15 to April 30.

Ros O.—South extreme, latitude 65° 48′ N., longitude 12° 21′ E. Fix. white, with red sector, visible 5 miles. Visible from S. 32° W., through W., to N. 26° E. Shows *red* over Rognan, from N. 80° W. to N. 67° W.

Anders-bak Island, Aasvær group.—Northeastern islet of group, latitude 66° 16′ N., longitude 12° 19′ E. White between E. by S. ¼ S. (leading northward of the northwestern rock of Aas Vær group), through S. and SW. ¼ S.; red from SW. ¼ S., through W. to W. by N. ¼ N. (leading southward of Synst holm), and again white from W. by N. ¼ N. to NNW. ¼ W. (leading northward of Skinneri ground). Visible 11 miles. From 15th August to 30th April.

Soholm.—Rock, Trœn Islands, latitude 66° 26′ N., longitude 12° E. Fl. white, visible 17 miles. August to May.

Stotsund.—Middle Soiskje, latitude 66° 57′ N., longitude 13° 29 E. Fix. white with flash and red sector, visible 13 miles, from E. through S. and W. to N. ¼ W. The *red* sector shows between SSW. ¼ W. and W. by S. ½ S. over Stotkov and Rorbo. From 15th August to 30th April.

Nyholm Bodo.—East point of the island, latitude 67° 17′ N., longitude 14° 24′ E. Fix. red and white, visible 8 miles. In the western channel it is *white* between NE. by E. ½ E. and E. ¼ S., and *red* from E. ¼ S. to E. ½ N., when it is hidden by Herto. In the northern channel it is *white* between Herto and the mainland, or between S. by W. ½ W. and SSW. ¼ W.; *white* towards the anchorage.

Gryto.—On island, southeast part, latitude 67° 23′ N., longitude 13° 53′ E. Fix. white, visible 13 miles. August to May.

Vaago.—Northeast point of island, latitude 67° 26′ N., longitude 14° 2′ E. Fix. red, visible 7 miles, from SSE. ½ E. through S. to NW. ¼ N. From August 15 to April 30.

Skomvœr.—Near Röst, latitude 67° 24′ N., longitude 11° 54′ E. Fl. white, twice every half minute, visible 22 miles. From August 15 to April 30.

Røst Island.—Vœrholmnakken, latitude 67° 31′ N., longitude 12° 7′ E. Fix. white, visible 6 miles. Fishing light.

—— Bratskjœr. Fix. white and red, visible 6 miles. Fishing light. September to April.

—— Halklakken. Fix. white and red, visible 6 miles. Fishing light. September to April,

Lofoten Islands, Vœro.—Point on eastern side of Rostnæsvaagen, latitude 67° 39′ N., longitude 12° 45′ E. Fix. white, visible 8 miles seaward, between S. 47½° W. (this bearing leads eastward of Kvistholms ledges) and N. 81° E., where it will be obscured by Maahorn (Mahornet), the SW. point of Vœro.

Glopen.—Sorvaag, south side of entrance, latitude 67° 53′ N., longitude 13° 4′ E. Fix. white, visible 18 miles, from ENE., through N., to SW. ¼ S., except where obscured by land between ENE. and NE. ¼ E.

Reine-havn.—Olenilso, south point, latitude 67° 56′ N., longitude 13° 8′ E. Fix. white, visible 5 miles, from W. by S. ¼ S., through N. and E. to S. by E. From September 1 to April 14.

Grimsholmen.—Latitude 68° 0′ N., longitude 13° 15′ E. Fl. white, visible 4 miles, from SE. ½ S. to SW. ½ W. Shows rapid flashes. From September 1 to April 14.

Svino.—Near Balstad, latitude 68° 3′ N., longitude 13° 34′ E. Fix. red, visible 6 miles, from SE. ½ E., through N. and W. to SW. ¼ W. From September 1 to April 14.

Balstad.—Telegraph station, latitude 68° 4′ N., longitude 13° 34′ E. Fix. red, visible 6 miles, from SE. through a sector leading clear of and between Tiestbo (Teistboen) and Lejskjœr. From September to April.

Stamsund.—Tornholm, south point, latitude 68° 7′ N., longitude 13° 53′ E. Fix. white, visible 8 miles, from NE. ¼ N. to W. ½ N. From September 1 to April 14.

Henningsvær.—Saltværings sund, latitude 68° 8′ N., longitude 14° 14′ E. White, with flash, visible 14 miles.

Skraaven.—West point of Sjaarholm, latitude 68° 9′ N., longitude 14° 41′ E. Fix. red, visible 6 miles, from ENE. through E. to S. ½ E., except between SE. ¼ S. and S. by E. ¼ E., where hidden by land.

Orsvaag.—North side of Sagoen, latitude 68° 12′ N., longitude 14° 27′ E. Fix. white, visible 8 miles, from NE. by E. ¼ E., through N. and W. to SE. ½ E. From September 1 to April 14.

Svolvær.—Kjeo, south point, latitude 68° 13′ N., longitude 14° 37′ E. Fix. red, visible 6 miles, from NNE. ¼ E., through N. and W. to SW. ¼ S. From September 1 to April 14.

Lankvig.—Latitude 68° 23′ N., longitude 14° 27′ E. Fix. white, visible 4 miles, from SW. by W. to NE. ¼ E.

Grotosund.—On Anders point and at Nordskot, latitude 67° 50′ N., longitude 14° 50′ E. Two fix. red, visible 4 miles. Leading lights between Kyllingen and Kyllingfluen, SSE. ¼ E., 460 yards. From September to April.
April 30.

Flado Islet.—SW. point, latitude 67° 55′ N., longitude 14° 48′ E. Fix. white, with flash and red sector, visible 20 and 11 miles. Shows *red* in direction of Groto, from SSW. ½ W. (leading one cable westward of Floholmen) to S. ¼ W. (leading 1¼ cables westward of Kjuklinggrund and Kjuklingen).

Trano.—Stangholm, latitude 68° 11′ N., longitude 15° 38′ E. Fix. white, visible 11 miles, from E. ½ N., through E. and S. to W. ¼ S. From August 15 to April 30.

Hjertholm.—East side of Lodingen Harbor, latitude 68° 24′ N., longitude 16° 3′ E. Fix. white, visible 8 miles, from SSW. ½ W. through W. and N. to NNE. ¼ E. From August 15 to April 30.

Bratholmen.—On islet, latitude 68° 30′ N., longitude 15° 14′ E. White (quick flash), visible 5 miles. Leading lights for channels. From September 1 to April 14.

Sandoen.—East point, latitude 68° 34′ N., longitude 15° 2′ E. White (quick flash), visible 5 miles. Leading lights for channels. From September 1 to April 14.

Græsholm.—NE. extreme of Stegelholmen: North, entrance to Tiel sund, latitude 68° 40′ N., longitude 16° 40′ E. Rev. white, visible 4 miles, from NE. by E., through W., to SW. by W., leading eastward of shoal north of Stegelholmen. From September 1 to April 14.

Iæva.—Præst fiord, latitude 68° 55′ N., longitude 15° 2′ E. Alt. red and white, visible 6 miles, between S. 31° E. to S. 6° E. and N. 57° W. to N. 8° E. From September 1 to April 14.

Voie.—Skogsö Island, latitude 68° 56′ N., longitude 14° 52′ E. Fix. white, visible 5 miles, between N. 21° E., through E. and S., to S. 46° W. From December 1 to April 14.

Lyngoer.—Near Langenaes, latitude 69° 2′ N., longitude 15° 8′ E. Alt. red and white, visible 6 miles, between N. 86° E., through S., to N. 74° W. From September 1 to April 14.

Finsnæs.—S. entrance of Gi sund, latitude 69° 14′ N., longitude 17° 58′ E. Two fix. white.

Bukkeskind.—E. shore to Gi sund, latitude 69° 21′ N., longitude 18° 6′ E. Two fix. white. These with the lights at S. entrance are leading lights between Leikness and shoals northward and westward.

Andenæs.—Northern part, latitude 69° 19′ N., longitude 16° 8′ E. Fix. white, with flash, visible 18 miles. August to April.

Hekkingen.—North side of islet, latitude 69° 36′ N., longitude 17° 50′ E. Fix. white, visible 11 miles, from S. by E. ½ E., through W., to NNW. From August 15 to April 30.

South Tonsnæs.—North entrance to Tromso sund, latitude 69° 44′ N., longitude 19° 6′ E. Fix. white, visible 4 miles, from N. ½ E. through E. to SW. ½ W. From September 1 to April 14.

Fuglenæs.—Extreme point of Fuglenæs, Hammerfest, latitude 70° 40′ N., longitude 23° 40′ E. Fix. white, visible 8 miles, from S. by E. ½ E. through E. and N. to W. by S. ½ S. From August 25 to April 19.

Fruholm.—Near Ingo, latitude 71° 6′ N., longitude 23° 59′ E. Fix. white, visible 19 miles. From August to April.

West Vaagen.—Extremity of west breakwater, latitude 70° 22′ N., longitude 31° 8′ E. Fix. white and red, visible 6 miles. *White* between S. by E. (leading one cable eastward of Svino, and close eastward of Totteskitten ground) and S. ½ W. (leading well westward of Reno Skier; and *red* from S. ½ W. to about SSW. From August 25 to April 1.

Naasoe Island, Færoe Islands.—South extreme, latitude 61° 59′ N., longitude 6° 89′ W. *Intended.*

ICELAND

Reykjanas Point.—Latitude 63° 48′ N., longitude 22° 41′ E. Fix. white, visible 19 miles

Scaw.—S. side of Faxe Bay, latitude 64° 4′ N., longitude 22° 45′ E. Fix. white, visible 6 miles; obscured from NE. by E. ½ E. to NW. ½ N. From August 1 to May 15.

Gerdatanger.—South side of Faxe Bay, latitude 64° 0′ N., longitude 22° 16′ E. Fix. white, visible 2 miles. Fishing light.

Alptanes.—East side of Faxe Bay, latitude 64° 4′ N., longitude 21° 57′ E. Fix. white, visible 2 miles. Fishing light.

Brekkuholl.—East side of Faxe Bay, latitude 64° 6′ N., longitude 22° 0′ E. Fix. white, visible 2 miles. Fishing light.

Engey Island.—North end, approach to Reikiavik, latitude 64° 10′ N., longitude 21° 53′ E. Two fix. white over red, vertical. From September 1 to April 30.

WHITE SEA.

Swiatoi Nos.—Highest or southern hill, latitude 68° 9′ N., longitude 39° 49′ E. Fix. white, visible 20 miles. From August 1 to close of navigation.

Orlov.—Northeast point of cape, 1,200 yards from the beach, latitude 67° 11′ N., longitude 41° 22′ E. Fix. white, visible 17 miles, between SSE. ½ E. and N. ½ W. From August 1 to close of navigation. Fog bell.

Cape Sergiva.—Latitude 66° 59′ N., longitude 41° 21′ E. Fix. white, occasionally.

Morjovets.—Northwest point of island, 540 yards inshore, latitude 66° 46′ N., longitude 42° 30′ E. Fix. white, visible 14 miles, between SE. ½ S., through E., to NE. ½ N. From August 1 to close of navigation.

Sosnorets.—Center of island, latitude 66° 29′ N., longitude 40° 43′ E. Fix. white, visible 13 miles. From August 1 to close of navigation.

Zimnegorski.—Zimnia hills, right bank of Kammeni River, latitude 65° 28′ N., longitude 39° 44′ E. Fix. white with flash, visible 21 miles, through an arc of 180°. The light-house is about 50 yards from shore.

Jijginsk.—North side of Onan Island, latitude 65° 12′ N., longitude 36° 51′ E. Fix. white, visible 17 miles. From August 1 to close of navigation.

Solovetzki Island.—Sekirnoi hill, latitude 65° 7′ N., longitude 35° 37′ E. Fix. white, visible 23 miles. Visible from SSW. ½ W., through E., to NW. by N. From August 1 to November 28. Bell in fog.

Bol Shoujmuia Island.—On summit, latitude 64° 40′ N., longitude 35° 35′ E. Fix. white, visible 12 miles.

North Dvina River.—Light-vessel in 6 fathoms off entrance, with Moudiuga lights in line, latitude 64° 56′ N., longitude 40° 9′ E. Two fixed red on mainmast, white on mizzenmast. A yellow flag with blue cross on main. A yard and horn on foremast, black globes on main and mizzen. Fog horn giving a continuous blast for 10 minutes, followed by a silence of 5 minutes. Black, three masts.

Moudiuga Island.—Near Berezov bar at entrance of the principal channel of Dvina River, on west coast of Moudiuga Island, on a sandy hillock, latitude 64° 55′ N., longitude 40° 17′ E. Fix. white, visible 13 miles, between SSE. through E. to NW. by N. Shown from August 1 to close of navigation. In the navigable season, Archangel pilots are to be found here; they meet vessels 4 miles without the shoals of the bar.

—— On south part of island; south light, latitude 64° 51′ N., longitude 40° 20′ E. Fix. white, SE. ½ E., 430 yards apart. Visible between N. by W. ½ W., through E., and SE. ½ S. The north light is fixed red, visible 5 miles, between SE. ½ E. and SE. ½ S. Visible 9 and 5 miles respectively.

BEACONS AND BUOYAGE.

NORWAY.

The following system of beacons and buoyage is and will be adopted in marking the channels and shoals on and near the coasts: Fixed beacons near fairway will have an arm indicating on which side the fairway lies. When vessels may pass on either side, the beacons will have two arms, one on each side. Beacons marking shoals in open waters will have no arms.

Floating beacons and buoys from Swedish boundary to Lister (about 17 miles northwest of the Naze) will be surmounted by topmarks, in accordance with the following system: A *white* perch with broom turned upwards signifies that the shoal lies to the northward or eastward of the mark; a *black* perch with broom turned downwards signifies that the shoal lies to the southward or westward of the mark. In fairways with a northerly and southerly direction vessels should pass westward of the *white* perches and eastward of the *black* perches; and in fairways trending easterly and westerly vessels should keep to the southward of the *white* perches and northward of the *black* perches. Perches, *white* and *black* horizontal, with ball, signify that in the direction of the fairway they may be passed on either side. Buoys are *red*, as heretofore, with staff of color and character similar to the perches above described.

PILOT VESSELS.

The following alteration has been made in article IX of the regulations for preventing collisions at sea on the coasts of Norway: Pilot vessels cruising off the coasts of Norway for pilotage purposes are not obliged to carry a white light at the masthead visible all round the horizon, but must exhibit a flare-up light at intervals of not more than 15 minutes; also, on the approach of any vessel, a bright white light, visible all round the horizon, must be shown in sufficient time to prevent collision.

SWEDEN.

The following system of beacons and buoyage is adopted in marking the channels and shoals on and near the coasts: Channels with general north and south direction, on east side by *red* broom-beacons or *red* buoys; on west side by plain stake-beacons or *black* buoys. Channels with general east and west direction, on north side by *red* broom-beacons or *red* buoys; on south side by plain stake-beacons or *black* buoys. Channels having any other direction are marked as far as is practicable in conformance with this system. Shoals in open Swedish waters will be marked by beacons

as below, independently of their carrying balls or other top marks; on north side by *black* beacons; east side by *black* beacons with *white* band in middle 3 feet broad; south side by *red* beacons with one or more brooms turned upwards; west side by *red* beacons with one or more brooms turned downwards.

FRANCE.

On entering a channel from seaward, all buoys and beacons painted *red* with a *white* band near the summit must be left to starboard; those painted *black* must be left to port; buoys that can be passed on either side are colored *red with black horizontal bands;* that part of the beacon *below the level of high water*, and all warping buoys, are colored *white*. The small rocky heads in frequented channels are colored in the same way as the beacons, when they have a surface sufficiently conspicuous.

Each beacon or buoy has upon it, either at full length, or abbreviated, the name of the danger it is meant to distinguish; likewise, its number, commencing from seaward, and thus showing its numerical order in the same channel.

The *even* numbers are on the *red* buoys, and the *odd* numbers on the *black* buoys; the buoys and beacons colored *red with black horizontal bands* are named but not numbered.

LIGHTS IN THE BRITISH ISLANDS, 1889.

ADMIRALTY LIST, CORRECTED TO 31ST DECEMBER, 1888.

[Transmitted by Consul Bruce, of Leith.]

ABBREVIATIONS AND EXPLANATIONS.

LIGHTS.

F. Fixed, or steady.

Fl. Flashing. Showing flashes at short intervals, or groups of flashes at regular intervals. (Lights showing two or more flashes in quick succession are also frequently spoken of as "group flashing.")

Rev. Revolving. Light gradually increasing to full effect, then decreasing to eclipse. [*At short distances and in clear weather a faint continuous light may be observed.*]

F. & Fl. Fixed light with addition of white or colored flashes preceded and followed by a short eclipse.

Int. Intermittent, or occ. occulting. A light suddenly and totally eclipsed. When light between eclipses visible less than 30 seconds, term occulting applied. When light visible longer than half minute, term intermittent applied. [*The note attached to revolving lights is in some cases applicable.*]

Alt. Alternating. Red and white light alternately at equal intervals, without any intervening eclipse.

ILLUMINATING APPARATUS.

C. Catoptric, or by metallic reflectors. D. Dioptric, or by refracting lenses.

C. D. Catadioptric, or by both methods combined.

Ord. Order or first class of apparatus, numbered from the first to the sixth order.

1st	Ord.	light,	from	center	of	the	light	to the vane is *about* 15 feet.
2nd	"	"	"	"	"	"	"	11
3rd	"	"	"	"	"	"	"	10
4th	"	"	"	"	"	"	"	8
5th	"	"	"	"	"	"	"	7
6th	"	"	"	"	"	"	"	6

The bearings are magnetic, *and are given from seaward.*

The given distances from which the lights are visible are calculated in nautical miles for a height of 15 feet above the sea, the elevation of the lights being in all cases taken as above high water.

Under certain atmospheric conditions, and especially with the more powerful lights, the *glare* of the light is visible considerably beyond the radius given, which is calculated for the actual flame of the light.

CAUTION RESPECTING FOG SIGNALS.

Having in view the varying distances at which a fog signal can be heard at sea, and the frequent occurrence of fog near to but not observable from a fog signal station—

Mariners are cautioned that, whilst every endeavor will be made to start fog signals as soon as possible after signs of fog have been observed, they should not, when approaching the land in a fog, rely implicitly upon these fog signals, but should always use the lead, which, in nearly all cases, will give sufficient warning.

The expression "foggy weather" means that the state of the atmosphere is such as to make objects indistinct.

The following regulations have been established respecting the several light-vessels on the coasts of England and Ireland, viz:

A white light is exhibited from the forestay of each light-vessel, at a height of 6 feet above the rail, for the purpose of showing in which direction the vessel is riding, when at her station.

When a light-vessel is driven from her proper position to one where she is of no use as a guide to shipping, the following signals will be made, viz:

The usual lights will not be exhibited, but a fixed *red* light will be exhibited at each end of the vessel, and a *red* flare shown every quarter of an hour. By day, the balls or other distinguishing masthead marks will be struck.

If from any cause the light-vessel be unable to exhibit her usual lights whilst at her station, the riding light only will be shown.

The mouths of fog-horns, in light-vessels, are pointed to windward; also those on the land to seaward.

When, from any of the light-ships, a vessel is seen standing into danger, a gun will be fired and repeated until observed by the vessel; also, the two signal-flags J. D. of the Commercial Code *"You are standing into danger"* will be hoisted and kept flying until answered.

In England and Ireland, whenever a light-vessel or other craft is anchored to mark the position of a wreck, the top sides will be colored green, and she will be further distinguished, by day by three balls placed on a yard 20 feet above the sea, *two balls (vertically) on the side on which navigating vessels may safely pass*, and one on the other; and by night by three fixed *white* lights similarly arranged and with the same meaning. These marking vessels, when so employed and fitted, will not show the ordinary riding light.

NOTE.—The firing special rockets (of little sound but of great brilliancy) immediately after a gun from a light-vessel will denote the need of assistance from the shore; rock light-houses (excepting those in the Isle of Man) are also supplied with these rockets, for use when assistance is required from the shore.

The following signals are established at light-vessels and pile light-houses in the London, Harwich, and Ramsgate districts: In order to communicate that a vessel is on either of the undermentioned sands, the arranged signal is to be fired from the light-vessel or pile light-house, and repeated until answered from an inner light-vessel or coast-guard station, or by a signal from the life-boat on arriving at the vessel indicated.

Sands.	Signal.	Interval of firing.	To be repeated every—
Kentish Knock and southwest part of Long Sand.	One gun and one rocket.	.....	Ten minutes.
Northeast part of Long Sand and Sunk ..	Two guns and two rockets.	Five seconds.....	Do.
Gunfleet and Cork.....	... do	Twenty seconds ..	Do.
Shipwash, Whiting, and Bawdsey....	One gun and one rocket.	.....	Five minutes.
Sands westward of line joining Maplin and Girdler lights.	Two guns and two rockets.	Thirty seconds ...	Ten minutes.
Sands eastward of line joining Maplin and Girdler lights.	....do	Two minutes	Fifteen minutes.
Goodwin and Brake	One gun and one rocket.	.....	Five minutes.

Two guns and 2 rockets fired from a light-vessel at intervals of 5 minutes, and repeated every 15 minutes, indicate that assistance is required by her, or by a vessel seen in distress not on the sands above referred to.

ENGLAND—

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″				
1	Scilly Isles. Bishop Rock	The southwestern of group.	49 52 30	6 27 0	1 White	Fl	One minute.	18
2	St. Agnes	Summit of island	49 53 33	6 20 38	1 White	Rev	Half minute.	18
3	*Giant's Castle Head.*	*St. Mary*	.....	.....	.....	.....	.....	...
4	Round Island.	North side of group.	49 58 40	6 19 20	1 Red	Fl	Half minute.	20
5	Seven Stones	Light-vessel, in 39 fathoms, east side of rocks.	50 3 40	6 4 30	1 White	Fl	One minute.	11
6	Longships	On highest rock, off Land's End.	50 4 10	5 44 45	1 White, with red sectors.	Int	One minute.	16
7	Wolf	On rock	49 56 43	5 48 27	1 White and red alternately.	Rev	Half minute.	16
7a	Newlyn	New south pier head.	50 6 20	5 32 40	1 White	Quick Fl.	Four seconds	7
8	Penzance Harbor.	South pier head, outer part, east extension.	50 7 5	5 31 30	1 White and colored sectors.	F	.....	10
9	Lizard	On cliff.....E.	49 57 40	5 12 6	2 White, W. ¾ N, and E. ¾ S. 74 yards apart.	F	.....	21

SOUTH COAST.

No.	Color, or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
1	Circular, gray granite.	143	183	1858 1886	D, 1st Ord..	Double flashing, showing two successive flashes of about four seconds duration each, divided by an eclipse of about four seconds, the second flash being followed by an eclipse of forty-eight seconds. Invisible between SW. ¼ W. and W. ¼ N., except on a bearing of W. by S. ¼ S., between the islands of St. Martin and St. Mary, which leads to the southward of the south stone of the Seven Stones. During thick or foggy weather an explosive fog-signal gives one report (similar to the discharge of a gun) every five minutes. NOTE.—*It is possible that the increased height of this light may affect the bearings above given.*
2	Circular, white...	138	74	1680	C.....	Obscured between S. ¼ W. and W. ¼ S., except when seen between islands.
3	.....	.....	.....	.....	.....	*Proposed.*
4	Circular, white...	180	63	1887	D, 1st Ord..	The flash is of about five seconds duration.
5	Red, one mast with bell.	38	.....	1841 1879	C.....	Shows three flashes in quick succession followed by thirty-six seconds darkness, the whole period being one minute. Fog siren, during thick or foggy weather, gives three blasts in quick succession every two minutes, the first a low note, the second a high note, and the third a low note. *Seven Stones* on sides. *See* regulations on page 3.
6	Circular, gray granite.	110	117	1795 1883	D, 1st Ord..	Eclipsed for three seconds every minute. *White* seaward from SSW. ¼ W. to N. by W. ¼ W. *Red* from SSW. ¼ W. to SW. ¼ S., and from N. by W. ¼ W. to NW. by N. A *red* light of less power is shown towards the land. The bearing SSW. ¼ W. leads half a mile westward of the Brisons, and the bearing N. by W. ¼ W. three-quarters of a mile westward of the Runnel stone. A bell is sounded in thick or foggy weather, twice in quick succession every quarter of a minute. Fog signal will give two explosive reports (each sounding like the discharge of a gun) every ten minutes. The intervals between the two reports will be five seconds.
7	Circular, gray granite; lantern, gallery, and coping black.	110	143	1870	D, 1st Ord..	In thick or foggy weather a bell is sounded, three strokes in quick succession every quarter of a minute.
7a	.....	84	.....	1887	.....	Light three seconds, eclipsed one second.
8	White.....	33	22	1817	D, 5th Ord..	*Red* between W. by N. ¼ N. and N. by E. ¼ E.; on other bearings *white*. When less than 15 feet water at pier head, the light shows *green* instead of red. A ball by day when there are 15 feet water.
9	Octagonal, white..	E. 230 W. 230	61 each	1751 1878	Electric lights.	When in line they lead 3¾ miles southward of the Manacles and the same distance southward of Wolf rock. A fog siren, during thick or foggy weather, gives one blast every five minutes. *About July*, 1889, *the fog signal will be altered to two blasts (high, low) in quick succession* every two minutes.

No.	Name of light.	Position.	Latitude. North.	Longitude. West.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			° ′ ″	° ′ ″				
10	Falmouth Harbor.	St. Anthony's point.	50 8 30	5 1 0	1 White	Rev ..	Twenty seconds.	14
					1 White in same tower.	F.....		11
11		Ends of breakwater.	.....	.....	2 Green	F.....	.....	3
12	Fowey	End of dwelling, 180 yards westward of White house point.	50 20 0	4 38 0	1 Red	F.....	.....	5
13	Eddystone	On rock	50 10 49	4 15 53	1 White	Fl	Half minute	17½
					1 White in same tower.	F.....	.....	15
14	Plymouth Sound.	On west end of breakwater.	50 20 2	4 9 27	1 White seaward, red over anchorage.	Occ...	Half minute	13
					1 White in same tower.	F.....	.....	11
15		West end of mount Batten breakwater.	.....	.....	1 White	Occ...	Five seconds	....
16		West Barbican pierhead.	.....	.....	1 White	F.....	.....	6
17		Mill bay: end of east pier.	.....	.....	Red	F.....	.....	....
		Mill bay: end of west pier.	.....	.....	2 Red	.....	.....	....
18	Plymouth Sound	Mount Wise landing.	.....	.....	1 Red	F.....	.....	....
19	Start Point	140 yards inside southeast extreme.	50 13 18	3 38 28	1 White	Rev ..	One minute.	20
			.....	.....	1 White, in same tower.	F.....	.....	20

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
10	Octagonal, white granite.	72 35	62	1835	C.....	The fixed light below revolving light is exhibited to clear Manacle rocks; it is seen only between NNE. ¼ E. and N. by E.; and when in sight leads 2 cables eastward of the rocks and buoy. A bell is sounded in thick or foggy weather four times in quick succession every minute.
11	.....	27	.....	1860		
12	.....	.....	.....	1875	.....	Harbor light. The Gribben beacon, 250 feet high, near Fowey, is painted with red and white horizontal bands.
13	Gray granite, lantern red.	133	168 above L. W.	1703	D. 1st Ord.	Double flashing, showing two successive flashes of about two and a half seconds duration, divided by an eclipse of about four seconds, the second flash being followed by an eclipse of about twenty-one seconds. The *white* subsidiary light shown from a window in the lighthouse, 40 feet below the flashing light, marks the Hand deeps; it extends over a sector of 16°, from S. 32° E. to S. 48° E. During thick or foggy weather, a bell will be sounded twice in quick succession every half minute—thus assimilating the character of the sound signal to that of the light. The stump of the old tower is black. NOTE.—Mariners will observe that the Casquets light, 78 miles S. E. ¼ E. from the Eddystone, is also a group flashing light, but shows three flashes in quick succession instead of two.
	.....	93	.....	1862		
14	Circular, gray granite.	63	76	1844 1880	D. 2d Ord..	*White* from W. by N. ¼ N., through north and east, to S. W. ¼ W. on the line of the Melampus buoy. The light suddenly disappears for three seconds every half minute. A bell during foggy weather gives one stroke every fifteen seconds.
	.....	.....	39	.....	.....	Leading light, visible between N. E. ¼ E. and N. E. by E. ¼ E.
15	.....	24	.....	1879 1881	6th Ord.	
16	.....	29	20	1882	Gas.	
17	.....	.....	.....	.....	.....	A *green* light is also shown on the pontoon pier, and two *white* lights, vertical, on Trinity pier.
	.....	.....	.....	1880	.....	
18	.....	.....	.....	.....	Gas.....	
19	Circular white....	204	92	1836	D. 1st Ord.	A fixed light 23 feet below the lantern is shown over Skerries bank, between S. W. ¾ W. and W. ¼ N. The revolving light is visible between East and S. by W. ¼ W. Fog siren, during thick or fogy weather, gives 3 blasts in quick succession every 3 minutes, the first a high note, the second a low note, the third a high note.
	.....	181				

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
20		Kingswear, east side of harbor.	50 20 45	3 33 55	1 White, red, and green sectors.	F		11
21	Dartmouth	110 feet seaward of last named.			1 White	F		
22		South part of town near coast guard station.			1 White, red, and green sectors.	F		
23	Torbay. Brixham	End of breakwater.			1 Red	F		3
24	Brixham	Head of west pier of harbor.	50 23 50	3 30 30	1 Green	F		6
25	Torquay	Pier head of inner harbor.	50 27 30	3 32 0	1 White seaward, red to the westward.	F		5
26	Torquay	Pier head of outer harbor.			1 Red	F		5
27	Babbacombe	On beach	50 28 40	3 30 30	1 Red and white.	F		
28	Teignmouth	Southwest end of Denn.	50 32 25	3 30 0	1 Red	F		6
29	Exmouth	On beacon			1 White	F		8
		On terrace			1 White and red.	F		5
30	Sidmouth	Near beach, on west side of creek.	50 40 35	3 14 10	1 White	F		8
31	Lyme Regis	Inner pier-head and custom-house.	50 43 10	2 56 10	2 Red. NW. ¼ N. by 275 yards apart.	F		4
32	Portland	Near the hill	50 31 10	2 27 30	2 White. NW. by N., 503 yards apart.	F		21
			50 30 0	2 27 18				18

COAST—Continued.

No.	Color, or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
20	Hexagonal tower.	85	36	1864	D. 4th Ord.	*White* over the fairway entrance to harbor between N. ¾ W. and N. by W. ¾ W.; *red* between N. by W. ¾ W. and the land to the northeast over the shoals off Kettle Point and Castle ledge; and *green* between N. ¾ W. and the land to the SW. over Check Stone Rock.
21	Staff	70	.....	.....	.....	In line with the former light, N. by W. leads in the fairway of channel.
22	.....	.....	.....	.....	.....	After passing between Castle and Kettle points, the *white* light near coast-guard station will indicate the fairway to anchorage; a *red* light will show over the shoals on the north side of the harbor; and a *green* light over the shoal of One Gun Point on the south. A beacon of masonry, built of gray granite in the form of a pyramid 80 feet high, is erected on high land about 500 feet above the sea, nearly half a mile NE. by N. from the outer Froward point, eastern side of entrance to the harbor. A *white* light, with red sector to lead clear of the shoal off the ferry, is shown from the landing stage at Kingawear. *Red* and *white* lights on and near this stage are also proposed.
23	.....	.....	.....	1878	.....	
24	Iron stand.....	20	.....	1339	.....	
25	....do	15	.....	1852	.....	
26	.....	.....	.....	1870	.....	
27	.....	.....	.....	1878	.....	Fishing light, *red* seaward, *white* to northeast and southwest.
28	Limestone tower..	34	37	1845	.....	This light in line with a small shifting *red* light in a house behind it leads to the fairway and clears rocks off the Ness and Pole sand.
29	Iron erection	100	20	1883	Gas.....	*Red* from double ledge into harbor to Checkstone, *white* seaward and up the harbor above Checkstone. The lights (*white*) in line lead over the bar.
	Obelisk	50	14	1883	Gas.....	
30	.....	.....	.....	.....	D. 6th Ord..	
31	Iron stand.....	12 21	.....	1853	.....	The high light just open eastward of low light, NW. ¼ N., clears outer Cobb and leads to the inner pier heads.
32	Circular white....	210	50	1716	D. 1st Ord..	In line lead between Race and Shambles. Low light is only visible seaward when bearing from SE. by E. ¼ E. to W. SW.
	Circular white....	136	85	1789	D. 1st Ord..	

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″					
33	Portland—Continued.	In the center of fort at north extremity of breakwater.	.....	.....	1	Red	F.....	.....	8
34	Shambles.....	Light-vessel, in 15 fathoms, at east end of shoal.	50 30 50	2 20 0	1	White	Fl.....	Half minute.	11
35	Weymouth Harbor.	On north pier...	50 36 30	2 26 40	2	Green	F.....	.....	.....
36		Near the beach eastward of railway station.	.....	.....	2	Red.....	F.....	.....	.....
37	Casquets*	On highest rock.	49 43 17	2 22 42	1	White	Fl	Half minute.	17
38	Alderney Harbor.*	On site of the old reading-room.	.....	.....	1	Red.....	F.....	.....	13
39		On old pier	49 43 20	2 12 6	1	Red.....	F	.....	10
40	Guernsey.* St. Peter Port.	Old harbor, pier head south side of entrance, inner harbor.	.....	.....	1	Red.....	F.....	.....	3
41		New harbor, south side of entrance, extremity of castle Cornet breakwater.	49 27 13	2 31 31	1	White	F.....	.....	9
42		North pier head.	.....	.....	2	White and green.	F.....	.....	.....
43	Hanois	Southwest rock.	49 26 2	2 42 10	1	Red.....	Rev	Forty-five seconds.	16

*Also in western coasts of Europe list.

COAST—Continued.

No.	Color or any peculiarity of light-house vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
33	.....	57	.....	1851	C	The light will be visible seaward and over Portland harbor; but is obscured by Portland peninsula between NNE. and E. by N. ½ N. Also visible from West Bay, over Chesil bank, between E. by N. ½ N. and ESE.; but to an observer 15 feet above the sea approaching within 2½ or 2 miles of Chesil bank, the light will dip below the land. During thick or foggy weather, a bell will be sounded from the breakwater light-house at the following intervals of time, namely, 39, 28, 27, 37, 18, and 20 seconds. Vessels are, in all cases, to keep not less than 1 cable's length distant from the light.
34	Red, carries a ball.	38	.....	1859 1883	C	Double flashing, showing two successive flashes in the following order: A flash of 5 seconds' duration, an eclipse of 6 seconds, a flash of 1½ seconds, followed by an eclipse of 17½ seconds. The fog signal, during thick or foggy weather, will give two blasts in quick succession every 2 minutes, in the following order: A high note of 2½ seconds' duration, silence 2½ seconds, a low note of 2½ seconds, followed by an interval of 112½ seconds. *Shambles* on sides.
35	.....	23, 18	.....	1867	.....	Leading lights, in line West.
36	.....	30, 20	.....	.....	.....	Leading lights, in line N. by W. ¾ W.
37	White	120	75	1723 1877	D. 1st Ord .	Shows three successive flashes of about two seconds duration each, with intervals between each flash of about three seconds of darkness, the third flash being followed by an eclipse of about eighteen seconds. In thick or foggy weather, a fog siren will sound three blasts of two seconds duration each in quick succession every five minutes. The light is shown from the highest or northwest of the three towers, and the fog signal is sounded from the eastern tower.
38	Pillar	55	.....	1859	Gas.....	Leading lights, NE. by E. and SW. by W. 370 yards apart.
39	White tower.....	25	.....	1859	Gas.....	The old pier light is screened in the direction of all danger.
40	White	34	24	1832	Gas.....	
41	Granite, circular, dark.	46	40	1867	D. 3d Ord. Gas.	Shows a bright light, from North, through west, to South and a dim light landward.
42	Tower and lamp-post.	.....	.....	1873 1883	.....	
43	Circular, gray granite.	100	117	1862	D. 1st Ord.	Obscured by the Island of Guernsey from W. by S., through west, to NW. A bell is sounded in thick or foggy weather every fifteen seconds.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash. Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″			
44	Jersey.* St. Catherine Bay.	Verolnt breakwater, outer end.	49 13 16	2 0 32	1 White	F	7–10
45	Jersey.* Gorey	Pier head			1 White	F	
46	Jersey.* Gorey	On hill, in sea face of wall, 535 yards from pier light.			1 Red	F	
47	Jersey.* St. Heller	Victoria, or New South pier.	49 10 29	2 6 45	1 White	F	6
48	Jersey.* St. Heller	Albert, or north pier, just within pier head.			1 Red	F	3
49	Jersey.* St. Heller	Western angle of Albert pier.			1 Green	F	3
50	Jersey.* St. Heller	On esplanade parapet.			1 Red, NE. ¼ N. 630 yards apart.	F	3
51	Jersey.* St. Heller	Upper pier road.			1 Red	F	3
52	Jersey.* Corbiere rock.	Off southwest point of Jersey.	49 10 40	2 14 50	1 White with red sectors.	F	W. 17
53	Minquiers*	Light-vessel in 15 fathoms, south-west part of reef.	48 53 35	2 17 20	2 White	F	9–11
54	Anvil Point	On cliff	50 35 30	1 57 30	1 White	Fl	Ten seconds. 18
55	Poole	North side of entrance.	50 41 0	1 56 40	2 White, N. ¾ W. 262 yards apart.	F	6
56	Bournemouth	Pier head	50 42 50	1 52 20	1 Red	F	
57	Needles Channel. Needles	Outer Needle rock.	50 39 42	1 35 25	1 White, red, and green sectors.	Occ	One minute. 14

* Also in Western coasts of Europe list.

COAST—Continued.

No.	Color, or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
44	Octagonal, iron, white.	60	30	1857	D. 5th Ord.	
45	.....	35	.....	1857	.....	
46	.....	80	.....	1883	.....	Gorey pier head light (white) in line with this red light N. W. ¾ N. will lead northward of Les Frouquies de Grève, southward of Ecureuil rock, and near the northern end of Azicot (or Plat) rock. In passing Ecureuil rock, the red light should not be opened northward of the white light
47	.....	31	.....	1858	C. 6th Ord.	
48	Iron, lamp post...	15	.....	1839	Gas.....	
49						
50	Iron, lamp-post...	23 38	.....	1867	Gas.....	These lights in line lead through the fairway of the small road.
51	Lamp post, 680 yards ENE. of Victoria pier.	46	.....	1858	Gas.....	
52	Circular, stone....	119	62	1874	D. 2nd Ord.	*White* from S. by E., through east, to N. by W. Inshore of the eastern limits of the white light, two sectors of *red* light are shown, one to the northeastward for marking the shoal ground of Rigdon bank, and thence to the land; the other to the southeastward for marking Les Vrachères, and the adjacent dangers between it and the shore. During fog a bell is sounded three times in quick succession at intervals of thirty seconds. Mariners must exercise caution when navigating within the limits of the red light.
53	Black, two masts, with a ball at each masthead.	39 26	.....	1865	C	A French light. In foggy weather a bell is sounded for one minute every three minutes, and continuously in answer to vessels.
54	White	149	39	1881	D. 1st Ord.	Visible seaward from E. ¼ S. to W. by S. ¼ S. Within 5 miles of the light it is obscured by Durleston head when bearing SW. by W. ¼ W.
55	Movable white huts.	37 16	.....	1848	.....	The low light is masked between N. by E. ½ E., and N. ¼ E. Within the harbor are shown: A *white* light near North Haven point, a *white* light near Lilliput farm; and two *red* lights on Poole quay.
56	.....	.....	.....	1880	.....	
57	Circular, granite. One broad black band about halfway up.	80	109	1859 1888	D. 1st Ord.	Suddenly eclipsed for 3 seconds every minute. *White* when bearing from NW. ½ N. (through north) to E. by S. ¾ S.; *red* from NW. ½ N. to NW. ¼ W. inshore of NW. ¼ W. it is obscured; *red* from E. by S. ¾ S. (through south) to SW. ¼ W., and *white* from SW. ¼ W. to SW. by W. The *white* light shows in the direction of Needles channel, and bearing E. ½ N., leads 1½ miles S. of Durleston head, and about a cable south of outer part of Bridge reef.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
	Needles Channel—Cont'd.							
57a								
58	Alum Bay	On pier			1 Red	F		
59	Totland Bay	On pier			1 Green	F		
	Hurst Point	Near fort	High light. 50 42 27	1 32 56	2 White. NE. by E. ¼ E. 223 yards apart.	F		14 12
60	Yarmouth	Outer light on the quay near the castle wall.			1 Green	F		
61		Inner one from the corner of a house.			White 30 yards apart.	F		
62		Pier head			1 Red	F		
63	Lymington	Pier			1 White	F		
64		Town			2 Red	F		
65	Calshot Spit	Light-vessel eastward of southeast limit of spit, in 6 fathoms.			2 Red. White. 20 feet apart.	F		
66	Calshot	Light-vessel on east side of channel, in 3½ fathoms, off Calshot castle.	50 48 40	1 16 40	1 White	Rev	One minute.	10
66a	Calshot	Castle			1 White	F		2
67	Netley	Pier head			1 Green	F		
68	Hythe	Pier head			2 Red, vertical	F		
69	Southampton	Royal Victoria pier.	50 53 45	1 24 0	1 Red	F		
70		Town pier			1 Green	F		
71		End of extension quay, west side of river Itchen.			2 Green, vertical	F		
72		Light-vessel on western side of entrance to river Itchen.			2 Red over white	F		
73	Ryde	On pier	50 44 25	1 9 35	1 White	F		6
74	Stokes Bay	At each angle of southwest side of pier.			Red	F		

COAST—Continued.

No.	Color, or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
						Its northern limit bearing E. by S. ½ S. passes about 4 cables south of Dolphin bank and about 2 cables from the SW. buoy of the Shingles. The ray of *white* light between the bearings of SW. ½ W. and SW. by W. clears Warden ledge. From SW. by W. to the land the light is *green*. A bell is sounded continuously during thick and foggy weather.
57a	.....	.....	.....	1868	.....	
58	.....	.....	.....	.....	.....	
59	Circular. High white. Low white, with red lantern.	76 46	85 52	1812 1733	C ..... C.	High light visible between NE. ½ E. and E. by N. ½ N.; low light between NE. and E. by N. ½ N. In the offing the lights are obscured by Needles rocks when bearing northward of NE. ½ E. Leading light up the Solent is shown from the lantern of the high light-house, 76 feet above high water, visible between the bearings of W. by S. ½ S., and west. A fainter light will be seen some distance beyond these bearings.
60	Post	12	.....	1857	.....	In line, SSW., lead into the harbor in 10½ to 14 feet at H. W. springs.
61	.....					
62	.....	.....	.....	1876	.....	The pier is 237 yards long, and painted white.
63	.....	.....	.....	.....	.....	
64	.....	.....	.....	.....	.....	
65	Red, two masts, conical cages at mastheads.	28 16	.....	1882	.....	*Spit* on sides. Fog bell. *White* riding light. When out of position, a *red* light at each end of vessel. A single *white* light, and a *red* light when the ordinary lights are out of order.
66	Red; ball at mast-head.	32	.....	1842	C	*Calshot* on sides. A gong is sounded during thick or foggy weather.
66a	.....	40	.....	1888	.....	Visible through 220°, or from westward of Thorn knoll to Fawley beacon.
67	.....	.....	.....	1877	.....	
68	.....	.....	.....	1880	.....	
69	Iron posts	.....	.....	1841	.....	There are also two fixed lights on the dock pier heads, *dark red* on the north, and *red* on the south pier; when in one NNE. ½ E., lead up Itchen River in 14 feet.
70	.....	.....	.....	1880	.....	
71	.....	.....	.....	1876	.....	
72	Tripoli	23 15	.....	.....	.....	Fog gong. Regulations as in Calshot spit light-vessel.
73	Post	21	.....	1852	D. 5th Ord.	*Green* light on west side of pier head; *red* and *green* lights on east side.
74	Post	.....	.....	1865	.....	Two other *red* lights are shown when steamers are expected; one at north-west, the other at southeast angle of the pier.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″				
75	Southsea	In castle	50 46 37	1 5 13	1 Red and green sectors.	F		5
76	Spit Sand	On fort			1 White	F		
77	Horse Sand	On fort			1 Red	F		
78	Nomans Land	On fort			1 White, with red sector.	F		
79	Brading Haven	On fort			1 Green	F		
80	Portsmouth Harbor. Clarence Esplanade.	On north and south ends of pier.			2 Red	F		
81	Victoria	On pier { north end. south end. }			2 { Green / Red }	F		
82	Outer Town, Camber.				1 Red	F		
83	South Railway Jetty.	South end			1 Red and green	F		
84	Kings Stairs				1 Red	F		
85	Clarence Victualing Yard.	On pier			1 Red	F		
86	Gosport	Foot of High street, near town hall.			1 Red	F		
87	Warner	Light-vessel, in 13 fathoms, on eastern part of shoal.	50 43 40	1 3 55	1 White	Rev	One minute.	10
88	Nab	Light-vessel in 5½ fathoms, 1¾ miles eastward of Nab Rock.	50 42 15	0 59 25	1 White	Double Fl.	Forty-five seconds.	11
89	Isle of Wight. St. Catherine	On point	50 34 30	1 17 47	1 White	Fl.	Thirty seconds.	17
89a	Ventnor	New pier	50 35 20	1 11 50	1 Red	F		
90	Owers	Light-vessel in 16 fathoms SSW., 6 cables from south spit of Outer Owers.	50 38 35	0 41	1 White and red.	Rev	Half minute.	11
91	Selsea Bill	Watch-house	50 43 30	0 46 35	1 Green and red.	F		6
92	Bognor	North end of pier			1 Red	F		
93	Littlehampton	North end of east pier.	50 48 0	0 32 20	1 Red	F		7

COAST—Continued.

No.	Color or any peculiarity of light-house vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
75	.....	51	.....	1822	.....	This light appears *bright red* in the channel between the Spit refuge buoy and Horse fort, or between N. ¾ E. and NNE. ¾ E., but *green* to westward of the Spit buoy, or between NNE. ¾ E. and E. ¼ N.; eastward of Horse fort it is obscured.
76	Small tower	34	.....	1866	.....	
77	.....	34	.....	1866	.....	
78	.....	38	.....	1866	.....	A *red* sector, of about 14°, is shown over Ryde Sand head, and Sturbridge shoal, between SE. and SE. by E.
79	Small tower	38	.....	1866	.....	
80	Posts.....	.....	.....	1865	Gas	A central *white* light is also shown while steamers are plying. A large lamp of four burners is lighted immediately within the pier.
81	Posts.....	.....	.....	1865	.....	Blinked toward the south; visible from the harbor.
82	.....	.....	.....	.....	.....	
83	.....	.....	.....	1878	Gas.....	Shows *red* on the eastern side of a line drawn from the light to the east edge of Block house fort, and *green* westward of that line.
84	.....	.....	.....	1865	.....	
85	Post.....	.....	.....	1865	.....	
86	Post.....	.....	.....	1865	.....	
87	Red; ball at mast-head.	35	.....	1854	C	*Warner* on sides. A gong is sounded in thick or foggy weather.
88	Red, carries a ball	40	.....	1812 1887	C	*Nab* on long sides. Shows two flashes in quick succession in the following manner: flash 2½ seconds, eclipse 4 seconds, flash 2½ seconds, long eclipse 36 seconds. During thick or foggy weather a gong is sounded.
89	Octagonal, stone, castellated.	134	84	1840 1888	D..... Electric....	Visible inshore of SE. ¾ E. and the glare may at times extend in to the land. Obscured inshore of W. ¼ N. The flash is of about 5 seconds duration. A fog siren in thick or foggy weather gives two blasts (high, low) in quick succession every minute.
89a	.....	.....	.....	1887	.....	
90	Red, one mast with ball.	38	.....	1788 1886	C	Shows a flash every half minute, *white* and *red* alternately. *Owers* on sides. During thick or foggy weather a fog trumpet is sounded, giving a blast every 10 seconds.
91	.....	.....	.....	.....	.....	For fishermen. *Green* from W. to N. ¾ W.; and *red* from N. ¼ W. to NE. by E.
92	.....	.....	.....	.....	.....	For fishermen.
93	White, dome green	30	40	1848	Gas.....	The following lights on the east pier head indicate the depth of water, and when in line with the *red* light at the north end of the east pier, bearing N. ¾ E. lead to the entrance. A *white* light 10 feet on the bar; *green* 11 feet; *red* 12 feet; *red* and *white* vertical 13 feet; two *white* lights vertical 14 feet; and *white* and *green* vertical 15 feet. These lights are extinguished at high water.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″				
94	Worthing	On pier	50 48 20	0 21 50	1 White	F		
95	Shoreham	Extremities of piers.			2 Green	F		
96	Shoreham	Within the harbor entrance.	50 49 50	0 15 0	2 Upper white. Lower white and colored. N. by E. ½ E. 250 yards apart.	F		10
97	Brighton	Chain pier head	50 49 0	0 7 55	1 Green	F		5
98	Brighton	West pier head			1 Red	F		5
				East.				
99	Newhaven	East pier	50 46 55	0 3 40	1 White	F		12
100	Newhaven	West pier			1 White and colored.	F		12
101	Beachy Head	Belle Toute, the second cliff westward of the head.	50 44 15	0 13 0	1 White	Fl	Fifteen seconds.	23
102	Royal Sovereign Shoals.	Light vessel, in 12 fathoms, three-quarters of a mile southward of Southern head.	50 42 40	0 26 50	1 White	Triple Fl	Forty-five seconds.	11
103	Eastbourne	New pier head	50 45 50	0 17 45	1 Green	F		2
103a	St. Leonards	Pier works	50 51 0	0 33 45	1 Red	F		
104	Hastings	Upper light on the side of West Hill above the town.	50 51 25	0 35 30	2 Upper white, lower red. NNE., 300 yards apart.	F		4
		The lower on the beach.						
105		Pier head			1 Green	F		3
106		East pier			2 White. N. by W., 930 yards apart.	F		2
107	Rye	Extremity of groin, west side of harbor entrance.	50 55 45	0 46 40	1 Red	F		
108	Dungeness	On the point, about 450 yards within high water mark.	50 54 47	0 58 18	1 White with red sector.	F		16
109		Extreme edge of beach, S.S.E. ½ E. 225 yards from main light-house.			1 White	Fl	Five seconds.	10

COAST—Continued.

No.	Color, or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
94				1862		
95				1877		
96	Gray stone, white.	42 23	38 5	1835	D. 4th Ord.	The low light is near the apex of the middle pier, and is shown as follows, viz: *Green* when there are from 8 to 11 feet water on the bar with a flowing tide. A *white* light when there are 11 feet and upwards to high water slack, and from high water slack until the tide shall have fallen to 11 feet. A *red* light at high water slack.
97		35	22	1824		The *green* light is a mile eastward of the *red* light.
98		28				
99	Wood framework.	41		1862 1883		
100	Concrete	41	55	1864 1882		When the undermentioned depths of water are on the bar, whether flood or ebb tide, as follows: At low water and under 10 feet a *green* light; above 10 feet and under 14 feet a *red* light; 14 feet and upwards a *white* light. Two small *red* lights, vertical, will be shown from near the extremity of the superstructure of the breakwater in progress, as it is extended seaward. From the capping piece of both piers, immediately opposite each other, 3 feet high and 200 yards within the entrance, two small *green* lights.
101	Circular, white	284	47	1828 1887	C	Duration of flash about four seconds. Approaching from the eastward the light opens of the head when bearing NW. by W. ½ W., and on that bearing leads one mile outside Southern head.
102	A smaller ball over the usual one at mast head.	38		1875 1887	C	Shows three successive flashes in the following order: Flash 1½ seconds, eclipse 2½ seconds, flash 1½ seconds, eclipse 2½ seconds, flash 1½ seconds, eclipse 35½ seconds. *Royal Sovereign* on sides. During thick or foggy weather a gong is sounded.
103		10				
103a						During construction of pier.
104	Octagonal, white.	60 30	20 25		Gas	Night storm-signals for the use of fishermen are shown eastward of the low light.
105					Gas	
106	White Mast	25 12			Gas	Upper light shown when 10 feet on bar. Lower light shown from sunset to sunrise.
107	Mast, black	12		1864		Shown when water is rising and until half ebb.
108	Circular, red and white horizontal bands.	107	92	1792	D. 1st Ord.	*Red* from the bearing of east to the land. Also from SW. by W. ¼ W. to the land.
109		28		1875	D. 4th Ord.	The flashes are of about 2 seconds' duration. A fog siren is sounded during thick or foggy weather, giving two blasts in quick succession every 2 minutes; the first blast a high note, the second a low note.

ENGLAND—SOUTH

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
110	Varne shoal	Light vessel, in 15 fathoms, near west end.	50 56 10	1 16 50	1 Red	Rev	Twenty seconds.	11
111	Folkestone	South pier head of harbor.	51 4 40	1 11 35	1 Red, 1 white	F		6
112		20 feet from new pier head.			1 Green and white.	F		6
112a		Promenade pier.			2 Red. Vertical 6 feet apart.	F		
113		Extremity of Admiralty pier.			1 White	F. & Fl.	Seven and a half seconds.	6-7
		South pier head.	51 6 40	1 19 0	1 Red 2 Red	F F		
114	Dover							

ENGLAND—SOUTH

115		North pier			Red	F		
116	Dover—cont'd	West side of entrance to Granville dock, about 9 feet from the edge of wharf near the gates.			1 Green	F		
117	South Foreland	On head	High light. 51 8 23	1 22 22	2 White, W. & N., 385 yards apart.	F		26 23
118	Deal	On the iron pier, 367 yards from esplanade.	51 13 30	1 24 40	1 Red	F		
119	Goodwin Sands. East Goodwin.	Light vessel in 30 fathoms, about 1¼ miles from the sands.	51 13 0	1 36 25	1 Green	Rev	Fifteen seconds.	11

OAST—Continued.

No.	Color, or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
110	Red ball at mast head.	38	.....	1860	C	*Varne* on sides. During thick or foggy weather a gong is sounded.
111	White	37 33	31	1843	Plain reflector.	The *red* light is shown while there are 12 feet water between the pier heads. A *white* light is shown under the *red* when above 14 feet. When the *red* light is blinked at intervals caution is necessary. When the lights are not exhibited, there are less than 12 feet, or some obstruction in the fairway, or the harbor is inaccessible.
112	Iron skeleton	31	28	1860	D. 5th Ord.	The *green* light is seen in all directions seaward, from W. by N. to NE. by E. ½ E. A *white* light inshore of the above bearings indicates danger. A bell in foggy weather.
112a	Above pavilion...	.....	.....	.....	.....	*Intended.*
113	Cylindrical, red...	44	30	1876	D. 6th Ord.	A bell is sounded in foggy weather, giving single strokes at intervals of 7½ seconds.
114	.....	.....	.....	.....	Gas.....	The two *red* tidal lights, of unequal heights, are exhibited from a staff on Dover south pier head, and the small low *red* light on the north pier head. This latter *red* light and a similar *red* light on the low outer corner of the south pier, are shown when there are from 7 to 10 feet water at the entrance; the two *red* lights on the staff on the south pier and the low *red* light on the north pier, when above 10 feet and till the water has fallen again to that level; and the single low *red* lights on each pier when there are from 10 to 7 feet. The lights only point out the position of the piers, and do not indicate the channel, which continually varies with the shifting of sands.

AND EAST COASTS.

115	.....	12	.....	1842	.....	
116	Post	.....	.....	1874	Gas.....	
117	High, square; low, octagonal; both castelated and white.	374 290	69 49	1793	D. electric lights of great brilliancy	These lights in one, clear south end of the Goodwin sand. The high light is visible from SW. by S. through west, to E. by N. ½ N. The low light is visible from SW. ½ W., though west, to E. by N. ½ N. *Lights may occasionally be exhibited from experimental towers in rear of permanent light-houses.*
118	.....	.....	.....	1865	.....	
119	Red, half diamond over diamond on mast.	37	.....	1874	C	*East Goodwin* on sides. During thick or foggy weather a gong is sounded.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
120	Goodwin Sands. South sand head.	Light vessel, in 14 fathoms, off south end of the sands.	51 9 0	1 28 0	1 White	Fl.	Half minute.	11
121	Gull stream	Light vessel, in 8¼ fathoms, in fairway.	51 16 0	1 28 25	1 White	Rev.	Twenty seconds	10
122	North sand head.	Light vessel, in 10 fathoms, off north end of sands.	51 19 30	1 35 20	1 White	Fl.	One minute.	11
123	Ramsgate	West pier head.	51 19 42	1 25 23	1 Red or green	F		7
124		East pier head			1 White	Fl.	Five seconds light, and five seconds dark.	5
125		Promenade pier.			2 Red, vertical	F		
126	River Thames, and approaches. North Foreland.	On head	51 23 28	1 26 48	1 White	Occ.	Half minute.	20
127	Margate	West end of pier.	51 23 25	1 22 45	1 Red	F		10
128		End of landing pier.			1 Green	F		
128a	Whitstable.		51 21 50	1 1 40	1 White 1 Red	F F		
129	Tongue	Light-vessel, in 10 fathoms, at north side of ridge of sand.	51 20 0	1 19 20	1 Red and white.	Fl.	Half minute.	11

AST COASTS—Continued.

No.	Color, or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
120	Red, ball at mast head.	38	.....	1832 1884	C.....	Shows two successive flashes, one short, one long, in the following manner: A flash of 1½ seconds' duration, an eclipse of 6 seconds, a flash of 5 seconds, followed by an eclipse of 17½ seconds. *South Sand Head* on sides. During thick or foggy weather a fog siren will sound three blasts in quick succession every 2 minutes; the first blast a low note, the second a high note, the third a low note.
121	Red, ball at mast head.	36	.....	1809	C.....	*Gull* on sides. During thick or foggy weather a gong is sounded.
122	Red, three masts with balls.	40	.....	1798 1877	C.....	The light shows three flashes in quick succession, followed by an eclipse of 36 seconds. *Goodwin* on sides. During thick or foggy weather a gong is sounded. The ball on mizen is 6 feet lower than that on foremast.
123	Circular, granite..	38	37	.....	D. 6th Ord.	A *red* light is shown from the light-house on the west pier head while there is 10 feet water and upwards between the pier heads, or from 2¾ hours before, until 3½ hours after, high water; when less than 10 feet a *green* light is shown instead of *red*. By day, a red ball is hoisted on the cliff, near Jacob's ladder, indicating 10 feet and upwards between the pier heads. A *green* light is also shown from the west cliff to lead (when in line with tide light in light-house) in the best water through Old Cudd channel. Another *green* light is shown from the east cliff to lead (when in line with tide light in light-house in the best water from the Fairway buoy in Ramsgate channel.
124	Iron pillar.....	25	13	1867	.....	Visible from Dike buoy round to center of the basin gates of the west entrance of inner harbor.
125	.....	.....	.....	1881	Gas.....	Suddenly disappears every half minute for five seconds. Shows *red* between S. by E. ½ E. and S. by W. Eastern limit leads two cables eastward of East Margate buoy.
126	Octagonal, white..	188	85	1790 1880	D. 1st Ord.	
127	Stone column.....	85	70	1829	.....	
128	.....	.....	.....	.....	Gas	
128a	.....	.....	.....	.....	....r.....	The red light, 15 feet below the white light, is an occasional light.
129	Red, carries a black ball.....	40	.....	1848 1886	C.....	*Tongue* on sides. One *red* and one *white* flash, in quick succession, every half minute. During thick or foggy weather, a siren gives three blasts in quick succession every two minutes in the following order: The first blast a high note, the second a low note, and the third a high note.

ENGLAND—SOUTH AND

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
	River Thames, and approaches—Continued.		*North.* ° ′ ″	*West.* ° ′ ″				
130	Princes Channel.	Light-vessel, in 8 fathoms, north side of channel between Tongue and Girdler light-vessels.	51 29 15	1 12 40	1 Red	Rev...	Twenty seconds	10
131	Girdler	Light-vessel in 19 feet, about 3½ cables southwest of western spit.	51 29 10	1 6 10	1 White	Rev ··	Half minute.	10
132	Nore.....	Light-vessel, in 4 fathoms, east end of sand.	51 29 0	0 48 0	1 White	Rev ..	Half minute.	10
133	Sheerness .	Northwest face of circular fort on Garrison point.	51 26 48	0 44 42	1 Red	F.....	.....	5
134	Queenborough Spit.	Beacon in 6 feet water, near end of spit.	.....	.....	1 White	F.....	.....	5
135	Queenborough.	On pier	.....	.....	2 Red	F.....	.....	3
136	Southend ..	Pier head	.....	.....	1 Red	F.....	.....	....
137	Sea reach. Chapman.	On sands	.....	.....	1 White and red sectors.	Occ...	Half minute.	11
138	Sea reach. Mucking flat.	Pier head	.....	.....	1 White and red sectors.	Occ...	Half minute.	11
139	Broadness.	End of point....	.....	.....	1 White	Fl	Ten seconds	....
140	Stoneness..	End of point....	.....	.....	1 White	Occ...	Two seconds	11
141	Northfleet .	India Arms wharf.	.....	.....	1 White and red sectors.	Occ...	Half minute.	12
142	Mouse.....	Light vessel in 4 fathoms, west end of sand.	51 32 0	1 0 0	1 Green	Rev ..	Twenty seconds	11

EAST COASTS—Continued.

No.	Color or any peculiarity of light-house vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
130	Red, carries a ball.	35	.....	1856	C	*Princes Channel* on sides. A gong is sounded during thick or foggy weather.
131	Red, carries a ball.	36	.....	1848	C	*Girdler* on sides. During thick or foggy weather a gong is sounded.
132	Red, carries a black ball.	35	.....	1732	C	*Nore* on sides. During thick or foggy weather a gong is sounded. *See* regulations on page 3.
133	.....	50	.....	1859	Gas.....	Obscured when bearing eastward of SSE.
134	Iron on wood piles	30	.....	.....	D. 6th Ord .	
135	.....	50 20	.....	.....	Gas.....	Leading lights, 300 feet apart, visible through an arc of 45°. In line bear S. 7° W.
136	.....	.....	.....	1840	.....	Small *green* light intended near Van-woode pier.
137	Red, on piles.....	40	74	1849 1881	D. 2d Ord..	The light suddenly disappears for three seconds; and then, as suddenly, reappears at full power for three seconds; again suddenly disappears for three seconds, and then reappears at full power for the remainder of the half-minute. Bearing NW. by W. ½ W. leads 140 yards southward of West River middle buoy. Northward of this line it shows *red*. A bell is sounded three times in quick succession every 15 seconds during thick or foggy weather.
138	Red, on piles. White band under the lantern.	40	71	1849 1881	D. 2d Ord ..	Suddenly disappears for three seconds every half minute. Bearing W. by N. ½ N. clears Scar Elbow. Northward of this line it shows *red*. On the bearing of N. ½ W. a narrow stripe of *red* marks West Blyth buoy. On the bearing of NE. ½ E. and to the westward of it over Ovens Spit in 9 feet at low water it is *red*. A bell is sounded once every 10 seconds during thick or foggy weather.
139	Red, iron trestle-work tower.	38	44	1885	D. 4th Ord. Gas.	The flash is of three seconds duration.
140	Red, iron trestle-work tower.	38	44	1885	D. 6th Ord.	Light one and a half seconds, eclipse half a second.
141	Lantern, on iron frame, red.	48	53	1850	D. 4th Ord. gas.	Suddenly disappears for three seconds every half minute. *White* through the channel of Northfleet Hope and *red* from a depth of nine feet eastward of and over Broadness. In line with chimney of cement works, shows *white* to the north and *red* to south of this line in Gravesend reach.
142	Red, carries a ball.	39	.....	1838	C	*Mouse* on sides. A gong is sounded during thick or foggy weather.

ENGLAND—SOUTH AND EAST

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
	River Thames, and approaches—Continued.		North. ° ′ ″	West. ° ′ ″					
143	Maplin	South-east part of sand.	51 35 0	1 3 0	1	Red, with a white sector.	Occ...	Half minute.	11
144	Swin, middle.	Light-vessel in 5½ fathoms. Fairway of western entrance of East Swin.	51 39 0	1 6 30	1	White	Rev..	Half minute.	10
145	Gunfleet...	Southeast part of sand.	51 46 0	1 20 30	1	Red.....	Rev ..	Half minute.	11
146	Sunk	Light-vessel, in 7 fathoms. Fairway of East Swin.	51 50 40	1 30 30	1	Red and white alternately.	Rev ..	Forty-five seconds	11
147	Long Sand.	Light-vessel in 15 fathoms, about 2 miles E. ¼ N. from Bell buoy.	51 48 0 (approximate)	1 40 0	1	White	Double Fl.	Half minute.	11
148	Kentish Knock.	Light-vessel, in 11 fathoms, east side of sand.	51 39 30	141 0	1	White	Rev...	One minute.	11
149	Galloper....	Light-vessel, in 20 fathoms, southwest part of shoal.	51 45 0	155 50	2	White, horizontal.	F.....	.....	10
150	Clacton-on-Sea.	Pier head	.....	.....	1	Red.	F.....	.....	....
151	Harwich	On the shore abreast Dovercourt.	.....	.....	2	White. NW. by W. ½ W., 208 yards apart.	F....	.....	11 9½
152		North jetty extremity.	.....	.....	1	Red.	F.....	.....	....
153		Parkeston, on quay.	.....	.....	3	Red.	F.....	.....	....
154		End of Felixstowe pier.	.....	.....	1	Red.	F.....	.....	....
155		End of jetty, Landguard fort.	.....	.....	1	Green	F.....	.....	....
156		Near the extremity of Landguard point.	51 56 5	1 19 10	1	Red and white sectors.	F.....	.....	10
157	Woodbridge Haven.	West side.	51 59 0	1 23 30	2	White.....	F.....	.....	....
158	Cork.....	Light-vessel, in 4½ fathoms, near Cork	51 55 55	1 23 0	1	White	Rev...	Half minute.	10

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
143	Red, screw piles..	36	69	1838	D. 2d Ord.	Suddenly disappears for three seconds every half minute. Visible from E. by N. ½ N. (one cable southward of Blacktail spit buoy), through north and west, to south. The light is *white* between N. ½ E. and N. by E. to indicate channel between the Girdler and Shivering sand, and on the bearing of W. by N. a strip of white light 13 feet below the lantern marks the Maplin spit gas buoy. A bell is sounded once every ten seconds during thick or foggy weather.
144	Red, carries a ball.	36	.....	1837	C	*Swin Middle* on sides. A gong is sounded during thick or foggy weather. *See* regulations on page 3.
145	Red, on piles.....	41	72	1850	C	A bell is sounded during thick or foggy weather once every ten seconds.
146	Red, half ball over a ball.	39	.....	1892	C	*Sunk* on sides. A gong is sounded during thick or foggy weather. *See* regulations on page 3. The vessel is experimentally connected by telegraph with Walton-on-the-Naze.
147	Red, diamond at masthead.	40	.....	1883	.....	*Long sand* on sides. Shows a flash of two seconds, eclipsed six seconds, flash two seconds, eclipse 20 seconds. Gong in thick or foggy weather. *See* regulations on page 3.
148	Red, a small ball over the usual one at masthead.	38	.....	1810	C	*Kentish Knock* on sides. A fog siren is sounded during thick or foggy weather, giving two blasts in quick succession every two minutes. *See* regulations on page 3.
149	Red, a ball at each masthead.	35 each	.....	1803	C	*Galloper* on sides. A gong is sounded during thick or foggy weather. *See* regulations on page 3.
150	.....	.....	.....	1878	Gas.....	
151	White, on piles.	45 27	.....	1863	D. 2nd Ord. C	The high light is visible from N. ½ W. to W. by S., and low light is visible between NW. by W. and W. by N. ½ N. The two lights in line lead between Inner ridge and Andrews buoys.
152	.....	.....	.....	1869	D.....	Visible between W. and W. by S. ½ S.; vessels are cautioned not to anchor within these bearings. *Green* lights on east and west jetties.
153	.....	.....	.....	1882	.....	Leading lights for Great Eastern Ry. Co.'s steamers.
154	.....	.....	.....	1877	.....	
155	.....	.....	.....	1878	.....	
156	Lantern on wood frame, white.	33	38	1848	D. 6th Ord.	Shows *red* between NNW. and NE. to the Beach End buoy, where it changes to *white*; and a strip of *red* light is shown between S. by E. ½ E. and SSE. ½ E., to clear North Shelf buoy. Landguard Point light is not visible when bearing westward of NNW.
157	Wood frames.	.....	.....	.....	.....	Leading lights, for local use only, at tide time.
158	Red, carries a ball.	35	.....	1844	C	*Cork* on sides. A fog trumpet, giving one blast of four seconds' duration every 15 seconds, is sounded during thick or foggy weather. *See* regulations on page 3.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″					
159	Shipwash.....	Light-vessel in 9 fathoms, off northeast end of sand.	52 1 30	1 38 0	1	White.....	Triple Fl.	Half minute.	11
160	Orfordness.....	On the ness.....	52 5 0	1 34 30	1	White.....	Int...	Forty seconds	15
161	Outer Gabbard..	Light vessel, in 16 fathoms northeastward of sand, 7½ cables NE. ¾ E. from 4¾ fathoms patch.	51 59 50	2 4 15	1	White.....	Group Fl.	Thirty seconds	11
162	Southwold...	On cliff.....	52 19 0	1 40 45	3	White.....	F.....	.....	9
162a		South of town.	.....	.....	1	White.....	Occ...	Twenty seconds	12
163	Pakefield.....	Cliff southward of Pakefield	52 26 50	1 44 5	1	Red.....	F.....	.....	10
164	Lowestoft....	Harbor pier heads.	.....	.....	2	Red.....	F.....	.....	.....
165		High light on cliff.	52 29 14	1 45 24	1	White.....	Rev...	Half minute.	17
					1	Red sector in same tower.	F.....		
166		Low light-house on the ness is S. 23° E., 830 yards from the high light-house.	.....	.....	1	Red and white sectors.	Occ...	Half minute.	11

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
159	Red, carries a ball.	39	.....	1837 1883	C	*Shipwash* on sides. A triple flashing half-minute light, showing three successive flashes in the following order: A short flash of one and a half seconds' duration, an eclipse of four seconds, a long flash of five seconds, eclipse four seconds, and a short flash of one and a half seconds, followed by an eclipse of 14 seconds. Fog siren gives, during thick or foggy weather, three blasts in quick succession every two minutes in the following manner: A low note of two seconds' duration, silence two seconds, a low note of two seconds, silence two seconds, a high note of two seconds, followed by an interval of 110 seconds. *See* regulations on page 3.
160	Circular, red and white horizontal bands.	91	99	1792 1888	D. 1st Ord .	Once in every forty seconds the light suddenly disappears for three seconds, and then as suddenly reappears at full power. To the northward it shows *red* from the bearing of SW., S.ly to the land; to the southward it shows *red* between the bearings of NE. ¾ E. and NE. by E. ¾ E. E.ly and *green* from NE. by E. ¾ E. E.ly to the land. A subsidiary *white* light is also shown to the northeastward, from a window 60 feet below the high light, visible over an arc of about 25°, covering Aldborough ridge, and to assist vessels in rounding Orfordness.
161	Red, carried an inverted cone.	40	.....	1888	C	*Outer Gabbard* on sides. Four quick flashes occupying about 10 seconds every 30 seconds.
162	Posts	40	.....	1851	Gas	
162a	Temporary light-house.	46	48	1888	.....	Shows two short occultations in quick succession every 20 seconds. To the northward it shows *red* from SW. by W. to the land; to the southward it shows *red* from N. by E. ¼ E. E.ly to the land.
163	Hut	30	.....	1886	.....	The light is only visible between W. by N. ½ N. and NW. ½ W., and marks the channel across Newcome sand.
164	.....	.....	.....	1847	.....	In order to facilitate rounding the Ness at night, the north light is shaded inshore of a SW. by W. ¼ W. bearing. Two *green* lights are also shown at entrance of the inner harbor. At night a *red* light is shown at the look out or fish market when there are 10 feet of water at the entrance, and a *green* light when there are less than 10 feet. In addition a *green* light is shown at end of extension works at North pier.
165	White	123 99	53	1609	D. 1st Ord .	The *red* sector, 24 feet below the revolving light, is visible between SW. ¼ S. and SSW. ¼ W.
166	White	40.....	48.....	1866 1881	D. 2nd ord.	Suddenly disappears for three seconds every half minute. *Red* seaward between SSW. and NNE. ¾ E. and *white* inshore. In thick or foggy weather, a bell is sounded three times in quick succession every quarter of a minute.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″				
167	Corton	Light-vessel, in 12½ fathoms, outside Corton sand.	52 31 30	1 49 30	1 Red	Rev	Twenty seconds	11
168	St. Nicholas	Light-vessel, in 10 fathoms, inner end of channel.	52 34 40	1 46 50	1 White 1 Red	F Fl	 Ten seconds	11 4
169	Middle Cross Sand.	Light-vessel, in 19½ fathoms, one mile outside sands.	52 38 15	1 54 30	1 White	Double Fl.	Half minute.	11
170	Yarmouth	Gorleston south pier-head.	52 34 25	1 44 20	1 Red. Red or green tidal lights, in same tower. 1	F F	 	 2
170a		Brush wharf			1 Red	F		
171		Caister leading lights, upper window of sailors' home, and			1 Red	F		13
172		Britannia pier			1 Red	F		9
173		Britannia pier-head.			1 Green	F		
174	Cockle	Light-vessel in 7 fathoms, eastern side of north entrance to Yarmouth road.	52 41 20	1 46 20	1 White	Rev	One minute	10
175	Winterton	Near ness	52 43 0	1 41 30	1 White	F		16
176	Newarp	Light-vessel in 17 fathoms, near North Cross sand.	52 45 0	1 53 0	1 White	Fl	One minute.	11

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
167	Red, half ball under ball at masthead.	37.....	.....	1862	C	*Corton* on sides. A gong is sounded during thick or foggy weather. *See* regulations on page 3.
168	Red, carries a ball.	Main 36 Mizzen 16.	.....	1837	C	The *red* distinguishing light is shown near the stern of the vessel. *St. Nicholas* on sides. A gong is sounded during thick or foggy weather. *See* regulations on page 3.
169	Red, two vertical black bands. Two cones at masthead.	38....	.....	1886	.....	The light is a double flashing half-minute *white* light, showing two successive flashes, one long and one short, in the following manner: A flash of five seconds' duration, an eclipse of six seconds, a flash of one and a half seconds, followed by an eclipse of seventeen and a half seconds; or long-short every half minute. Gong during fog. Explosive warning signals on a vessel approaching dangerously close. *Cross sand* on sides.
170	.....	30.....	.....	1852	.....	*Red* light while flood stream is running into haven, but on the ebb it is replaced by a *green* light, until the water has fallen to one foot on the tide gauge; it is then extinguished until the water has risen to one foot on the gauge. These lights are obscured northward of a line drawn to St. Nicholas light-vessel. With strong southerly or easterly winds the *green* light is not shown; and in case of obstruction at the haven entrance all the lights will be extinguished. Red flag by day during flood stream. Two black balls hoisted when from any cause the haven is blocked, and the red flag lowered.
		20.....	.....	1887	.....	
170a	Circular, red brick.	64.....	.....	1887	.....	
171	.....	60.....	.....	1873	C. Gas..	These lights in line, bearing SW. ¼ S., lead 2 cables eastward of Caister elbow.
172	.....	20.....	.....	1873	C. Gas..	
173	.....	.....	.....	.....	.....	
174	Red, carries a ball.	35	.....	1844	C	*Cockle* on sides. A gong is sounded during thick or foggy weather. *See* regulations on page 3.
175	Circular, red	110	69	1790	D. 1st Ord.	Obscured on a bearing of N. by W. ½ W., cutting off at Scroby elbow bell buoy.
176	Red, three masts with balls.	39	.....	1791 1877	C	Shows three flashes in quick succession, followed by an eclipse of 36 seconds. *Newarp* on sides. In thick or foggy weather a fog siren gives three blasts in quick succession every two minutes. *See* regulations on page 3. The ball at mizzen is 6 feet lower than that at foremast.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″					
177	Smith's Knoll ..	Light-vessel in 25½ fathoms, 1 mile eastward of shoal.	52 52 0	2 13 30	1	Red and white.	Double Fl.	Twenty seconds	11
178	Would.....	Light-vessel in 15 fathoms, off south end of Hasborough sand.	52 49 55	1 47 47	1	White.....	Fl....	Five seconds	11
179		SSE. of Hasborough church.	52 49 12	1 32 20	1	White.....	Occ...	Half minute.	17
180	Hasborough ...	Light-vessel, in 15 fathoms, near north end of sand.	52 58 45	1 35 20	2	White horizontal.	F.....	.....	10
181	Leman and Ower.	Light-vessel, in 16 fathoms, between Leman and Ower sands. Near southeast tail of Ower sand; 4¼ miles S. SE., ¾ E. of shoalest spot, and 4¼ miles E. by S. ¾ S. from the shoalest part of Leman sand.	53 7 48	2 2 0	1	White.....	Fl....	Half minute.	11
182	Cromer.....	Near the cliff...	52 55 27	1 19 5	1	White.....	Rev...	One minute.	23
183	Hunstanton	On the point....	52 56 54	0 29 50	1	White.....	Occ...	Half minute.	16
184	Lynn Well.....	Light vessel, in 17½ fathoms, off Hook of Long sand, Lynn deep.	53 1 25	0 25 10	1	White.....	Fl....	Ten seconds	11
185	Bar Flat.....	Light vessel, in 21 feet, west side of channel, off northeast end of Wisbeach bar flat.	.....	.....	1	White.....	F.....	.....	11
186	Lynn	Leading lights on the east side of entrance to cut.	.....	.....	2	White. S.¼ E. and N.¼ W., 185 yards apart.	F.....	.....	5
187	Boston.....	Scalp sand.....	.....	.....	2	White.....	F.....	.....	...
188	Skegness	Pier-head.....	.....	.....	2	White, vertical.	.....	.....	...
189	Dudgeon	Light vessel, in 10¼ fathoms, 1 mile southwest of shoalest part.	53 14 30	0 57 13	1	White and red alternately.	Fl....	Half minute.	10

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
177	Red, black bulwarks. Black ball at mast-head.	40	.....	1886	C	The light is a *double* flashing light, showing *one red* flash and *one white* flash in quick succession *every twenty seconds* in the following manner: A *red* flash of *one and a half seconds*, an eclipse of *five seconds*, a *white* flash of *one and a half seconds*, and an eclipse of *twelve seconds*. In thick or foggy weather a fog siren sounds a high note, followed instantly by a low note, once *every two minutes*. *Smith's Knoll* on sides.
178	Red, one mast with diamond.	39	.....	1880	C	*Would* on sides. A gong in thick or foggy weather. *See* regulations on page 3.
179	White	136	85	1791 1884	D. 1st Ord., gas.	Suddenly disappears for five seconds every half minute.
180	Red, two masts with balls.	35	.....	1832	C	*North Hasborough* on sides. A gong is sounded during thick or foggy weather. *See* regulations on page 3.
181	Red, two masts with balls.	38	.....	1840 1879	C	Shows two flashes in quick succession every half minute. *Leman and Ower* on sides. A gong is sounded during thick or foggy weather. *See* regulations on page 3.
182	Octagonal, white..	274	58	1719	C	
183	Circular, white ...	109	61	1665	C. 2nd Ord.	Light 24 seconds, eclipse two seconds, light two seconds, eclipse two seconds. The light shows *red* when approaching outer buoy of Roaring Middle sand, between E. by S. ¾ S. and SE. by E. ½ E.
184	Red, ball at mast-head.	36	.....	1828	C	*Lynn Well* on sides. A gong is sounded during thick or foggy weather. *See* regulations on page 3.
185	Globe on mast....	38	.....	1878	.....	*Bar Flat* on sides. Fog gong and gun. Lynn Well light-vessel bears NE. by E. ½ E., distant 8 miles.
186	.....	.....	.....	1868	.....	
187	.....	.....	.....	1868	.....	Leading lights in line W. by S. ½ S.
188	.....	.....	.....	1881	.....	
189	Red, ball at mast-head.	35	.....	1736	C	A *white* flash of 2½ seconds, eclipse 2½ seconds; *red* flash 2½ seconds, eclipse 22½ seconds. *Dudgeon* on sides. A gong is sounded during thick or foggy weather. *See* regulations on page 3.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
190	Inner Dowsing..	Light vessel, in 10 fathoms, near the northeast end of shoal.	53 19 20	0 34 20	1 Green	Rev...	Twenty seconds	11
191	Outer Dowsing.	Light-vessel, in 10½ fathoms, western side of shoal.	53 27 0	1 5 6	1 Red	Rev ...	Half minute.	11
192	Spurn	Light-vessel, in 9½ fathoms off Spurn Point.	53 34 0	0 13 0	1 White	Rev ..	One minute.	11
193	Spurn	On the point....	53 34 44	0 7 10	1 Red and white. Northwest. 158 yards. White.	Occ... F.....	Half minute.	15 12
194	Bull Sand ..	Light-vessel, in 5 fathoms, near the southeast side.	53 34 0	0 5 0	1 White	F		8
195	Grimsby..	Pier heads			2 Red	F		
196	Grimsby..	Light-vessel, in 3½ fathoms, on the northwest end of Middle Shoals.			1 Red	F		7
197	Stallingborough.	At ferry	53 37 0	West. 0 10 0	1 White	F		
198	Newsham Booth.	About 1½ miles below Killingholm.			2 White with red sector.	F		
199	Killingholm.	Within embankment.	53 39 0	0 12 0	3 White. The low light is SE. ¼ E. of high light 207 yards, and north light N. ¼ E. of high light 264 yards.	F		11
200	Thorngumbald Clough.	Half a mile southward of Paull disused lighthouse.			2 White. SSE. ¼ E. and NNW. ¼ W.	F		
201	Salt End....	Near Hedon Haven.			2 White. SE. by E. ¼ E. and NW. by W. ¼ W.	F		
202	Hessle				2 White. E. by N. ¾ N. and W. by S. ¾ S.	F		

Humber River.

COAST—Continued.

No.	Color, or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
190	Red, two red balls at masthead.	38	.....	1873	C	*Inner Dowsing* on sides. In thick ro foggy weather a gong is sounded. *See* regulations on page 3.
191	A half ball over ball at masthead.	38	.....	1861	C	*Outer Dowsing* on sides. Fog siren during thick or foggy weather will give two blasts in quick succession every two minutes, the first a low note, the second a high note. *See* regulations on page 3.
192	Red, ball at masthead.	36	.....	1820	C	*Spurn* on sides. A fog siren is sounded during thick or foggy weather, giving three blasts in quick succession every two minutes in the following manner: A low note of two seconds' duration, silence two seconds; a low note two seconds, silence two seconds; a high note two seconds, followed by an interval of 110 seconds. *See* regulations on page 3.
193	High, red; low, white. Both circular.	93 54	112 76	1776	D. 1st. and 4th. Ord.	Suddenly eclipsed every half minute for three seconds. A sector of *red* light is shown from the high light-house from NW. by N. (cutting 2 cables northeast of the Sand Hale buoy) round northerly to SE. by E.½ E., on which bearing it cuts one cable north of Grimsby pier; in other directions the light is *white*.
194	Red, carries a ball.	21	.....	1832	C	*Bull* on sides. A bell is sounded during thick or foggy weather.
195	.....	.....	.....	.....	.....	Fog bell on north pier head.
196	Red, globe at masthead.	20	.....	1868	C	*Middle* on sides.
197	.....	20	.....	1849	C	This light will be seen by vessels coming up the Humber, when about midway of Burcom sand, and will appear brightest when bearing WSW., after which it becomes gradually fainter in approaching the Narrows, and when abreast Holme buoy it will disappear altogether.
198	Red, white.....	41 31	.....	1880	.....	Leading lights. An additional *red* sector is shown from the high light-house over Holme buoy No. 8.
199	High and north towers red. Southeast tower white.	68 37 35	77 45 45	1836 1836 1852	C	The north low light and high light in line lead between Foul Holme and Paull sands to the eastward, and Skitter sand end to the westward.
200	High red. Low circular, yellow.	50 30	50 30	1870	.....	
201	As above.....	50 30	.....	1870	.....	
202	.....	48 28	.....	1877	.....	In line mark eastern end of Ancholme Channel.

ENGLAND—EAST

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″				
202a	Humber River—Continued. Hessle Sand.	Light vessel in 12 feet, SW. side of sand.	.....	.....	1 White	F	.....	.....
203	Chalderness.	On the ness	.....	.....	2 Red and white.	F	.....	.....
204	Ferriby Sluice.	On groin, one mile westward of haven.	.....	.....	1 Amber	F	.....	.....
205	Wintoringham.	Edge of marsh ..	.....	.....	2 White	F	.....	.....
206		On the shore, west side.	.....	.....	2 White	F	.....	.....
207		Southeast side of haven.	.....	.....	2 White	F	.....	.....
208	Brough	On high beacon .	.....	.....	1 White	F	.....	.....
209	Whitton	Light-vessel, south shore off Whitton Middle.	.....	.....	2 White	F	.....	.....
210		On the pier	.....	.....	White over red 10 feet apart.	F	.....	.....
211		On the growths .	.....	.....	2 East, white; west, red.	F	.....	.....
212	Walker Dike.	At the two stone heaps.	.....	.....	2 White	F	.....	.....
213	Faxfleet ...	Faxfleet ness ...	.....	.....	2 East, green; west, amber.	F	.....	.....
214	Withernsea.....	Extremity of pier.	.....	.....	1 White	F	.....	.....
215	Hornsea	End of wrecked pier.	.....	.....	1 Red	F	.....	.....
216	Bridlington.....	North pier head	54 5 12	0 11 42	2 White, vertical.	F	.....	.....
217	Flamborough...	On head	54 7 0	0 5 0	1 Red	F	.....	8
218	Scarborough.....	Vincent pier....	54 17 0	0 23 0	1 Two white faces, one red, alternately.	Rev ..	Half minute.	21
219		West pier head	54 30 0	0 37 0	1 Red towards entrance, white towards harbor.	F	.....	13
220	Whitby.....	East pier head..	.....	.....	1 Green	F	.....	10
221		High Whitby, or Ling hill.	54 28 40	0 34 10	1 Red and green sectors.	F	.....	8
					2 White, SSE. 258 yards apart.	F	.....	22

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
202a	Red	20		1888		*Hessle Sand* on sides.
203	Beacon with basket ball.	33		1863		For rounding the ness and a guide to Ancholme Channel.
204	Post	23		1880		
205	On white triangles, lower movable.			1862		For leading eastward of Whitton Middle.
206	Post with ball on top.	28		1875		When in line lead through the channel on the southeast side of Whitton ness.
207	Post on small house.	8		1882		Leading lights.
		40		1880		
208				1883		
209	Red, carries a ball.			1865		*Whitton* on sides. *White* riding light, 3 feet above rail, in the fore part of the vessel.
210	On white triangles, lower movable.	White 10 feet higher than the red.		1862 1875		Both showing only to the westward. Bell during fogs.
211						
212				1863		To avoid a dangerous stone projection.
213	Box and post	28		1863		A mark for passing into or out of the Ouse.
214				1877		
215		20, 26		1881		
216		24		1852		The light is shown while there is 9 feet water in harbor.
217	Circular, white	214	87	1806	D. 1st Ord.	Shows *every half minute* in the order of two *whites* and one red. During fog or thick weather a rocket, which on reaching an altitude of about 600 feet will explode with a loud report, will be discharged every 10 minutes.
218	White	58	56	1806		Shown while 9 feet water in harbor. In daytime a ball is hoisted while there is 12 feet water at pier head, and 9 feet in entrance of the harbor.
219	Yellowish stone	83	60	1831	C	Light shown from two hours before till two hours after high water. In daytime a red flag is kept flying on summit of west cliff from two hours before to two hours after high water.
220		54		1855		Light shown from two hours before till two hours after high water. *Red* when seen from southward, but *green* to northward of Whitby rock buoy, when the entrance into the port is between two *green* lights.
221	Octagonal, white	240 each	66 46	1858	D. 1st Ord.	South light-house open east of north one clears Whitby Scar rock (lights in line lead on the rock). The northern light changes to *red* over and inshore of the Scar rock. *One tower to be discontinued, the character of the light exhibited from the other tower to be hereafter determined on.*

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
222	Tees Bay and River. South Gare breakwater.	On extremity	.....	.....	1 White	Fl	Ten seconds	10
223	Fourth buoy	Eastern wall, NE. by E., 3¼ cables from fifth buoy light.	.....	.....	1 Green	F	.....	.....
224	Fifth buoy	Slags wall, 1¼ miles within bar.	54 37 36	1 10 30	1 Red	F	.....	7
225	Seventh buoy.	On eastern training wall.	.....	.....	1 White	F	.....	.....
226	Seal sand	On sand, 6 cables SW. ¼ W. of fifth buoy light.	.....	.....	1 Red	F	.....	.....
227	Seaton	High light half a mile inland, low light on shore north of Seaton Carew.	54 40 0	1 12 0	2 High light white, low red., NW. by W. ¼ W. and SE. by E. ¼ E., 1,183 yards apart.	F	.....	13
228	Hartlepool	North pier head, west harbor.	.....	.....	1 Green	F	.....	.....
229		Pier head, old harbor.	54 41 0	1 11 0	1 Red	F	.....	7
230		Heugh	54 41 51	1 10 19	2 High light white, low tidal light red; in same tower.	F	.....	15 4
231	Seaham	South pier head.	54 50 0	1 19 0	1 Red	F	.....	4
232		Red Acre point.	.....	.....	2 Upper white, lower red; in same tower.	F Rev	..... Half minute	14 11
233		North pier head.	54 55 7	1 21 30	2 Upper white, lower red; in same tower.			13 red 1't c
233a		Roker pier extremity.	.....	.....	3 Upper, red; middle, white; lower, green.	F	.....	.....
234	Sunderland	South pier head.	.....	.....	1 White, tidal light.	F	.....	10
234a		Northeast pier head, southern outlet.	.....	.....	1 White and red sectors.	Occ	Ten seconds	.....

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
222	Circular, white ...	55	.....	1884	Holophotal 4th Ord.	Obscured southward of WNW. The flash is of three seconds' duration.
223	.....	.....	.....	1879	.....	
224	Red.....	26	.....	1866	D. 5th Ord .	*Fifth buoy light* is painted in front of the bulwark or gallery.
225	.....	.....	.....	.....	.....	The channel up to Middlesborough is further marked by three *red* lights and one *white* light.
226	Red and white, horizontal.	42	.....	.....	.....	In line with fifth buoy light, leads over bar.
227	Stone.....	89 34	70	1839	C	
228	.....	26	.....	1855	.....	*Green* light shown all night. Two fixed *red* lights in line N.W. ¼ N. lead into entrance, and are shown while there is 10 feet into west harbor.
229	Yellow	37	.....	1836	.....	Two small *red* lights are also placed on quay wall, to guide vessels to entrance of inner harbor N. by W. ½ W.
230	Yellow	84 62	73	1847	D. 1st. ord.. D. 4th ord..	Upper light all night, and small lower light from half flood to half ebb. By day a red ball is hoisted at the light-house flagstaff from half flood to half ebb.
231	.....	.....	.....	1846	D. 5th ord..	Tide light to intimate to vessels outside that they may run for the harbor.
232	Stone.....	94	58	1843	D. 5th and 7th ord.	
	.....	49	.....	1857		
232	White	73 55	64	1802	D. 3d ord.	
233a	.....	.....	.....	1888	.....	Roker pier lights are shown from the end of the superstructure, and are moved outward as the extension of the pier progresses.
234	White	58	.....	.....	D. 5th ord..	Shown over an arc of 130°, from half flood until 2 hours after high water. From high water until 2 hours after, an additional *white* light is shown under the tidal light. A *green* light under denotes danger in the harbor. When blue lights are burnt and tidal light is not shown, no vessel should attempt entering the harbor, as it is attended with great danger. A fog bell is sounded for one minute in every three minutes, from half flood until two hours after high water.
234a	.....	45	.....	1888	5th ord....	Light seven seconds, eclipse one second, light one second eclipse one second. Shows *white* over an arc of 34½° northward of Hendon Rock; *red* over an arc of 19½° marking Hendon Rock; *white* over an arc of 15° southward of Hendon Rock; *red* over an arc of 15½° marking the White Stones; *white* over an arc of 11½° southwestward of the White Stones; and *red* shoreward over an arc of 35°.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
235	Souter Point	On the point	54 58 10	1 21 30	1 White	Fl	Half minute.	20
			.....	.....	1 White and red sectors, in same tower.	F	.....	.....
236	Tyne River entrance.	Castle yard, Tynemouth.	55 1 0	1 25 0	1 Red	Rev	One minute.	18
237		North pier works.	.....	.....	3 Vertical. Green above, white in center, and red below.	F	.....	.....
238		Middle of north pier.	.....	.....	1 Red	F	.....	.....
239		Groyne on Herd sand.	.....	.....	1 White and red.	Occ	Ten seconds	7
240	North Shields	High light-house in front of Dockwray square. The lower near Clifford fort.	55 0 30	1 26 0	2 White. W. ⅔ N. 240 yards apart.	F	.....	16 13
241	Blyth	South end of town.	55 7 33 (High L. Ho.)	1 29 50	2 White. N. by W. ¾ W. 200 yards apart.	F	.....	15 7
242		Pier heads	.....	.....	1 White	F	.....	.....
242a		Blyth Snook, south end.	.....	.....	1 Red 2 White. N. ½ E. 120 yards apart.	F	.....	.....
243	Nowbiggin	.....	55 11 0	1 31 0	1 Red and green	F	.....	.....
244	Coquet	Southwest part of island.	55 20 6	1 32 0	1 White with a red sector.	F	.....	14
			Same	tower	1 White and red sectors.	F	.....	13
245	Warkworth	North end of south pier.	55 21 0	1 35 0	1 White and red	F	.....	5

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
235	White, circular ...	150	76	1871	D. electric	The fixed light 21 feet below the flashing light shows *white* between N. by W. and north; *red* between north and N. ¼ E.; is obscured from N. ¼ E. to N. ¾ E.; and again shows *red* from N. ¼ E. to N. by E. ¼ E. When the fixed white light is seen vessels will be in the line of Mill Rock and Cope Carr point, and when it changes to red, or is obscured in that of Whitburn Stile, Hendon Rock, and White Stones. A fog siren in thick or foggy weather will give one blast every minute.
	.....	129	.....	.....	.....	
236	Square, white	154	79	1802	C	Visible seaward over 202°, from S. 18° W. to N. 40° E. A faint light is visible in to the land to the northward.
237	.....	.....	.....	1864	.....	The pier lights and buoys will be moved out as works are advanced.
238	.....	.....	.....	1865		
239	.....	.....	.....	1882	C	*White* between W. ¼ N. and SW. by W. ¾ W., and *red* between W. ¼ N. and NW. by W. ¾ W., (or over the south pier and indicating the northern extremity of the submerged rubble base).
240	White	123	49	1808	C.	
	.....	77	76			
241	White	63	41	1789	C.....	Leading lights only shown while there are 12 feet water on the bar. In daytime a blue flag hoisted at high light-house answers the same purpose.
	.....	28	35			
242	.....	.....	.....	1884	.....	*White* light on eastern pier; *red* on western.
	.....	.....	.....	1888		
242a	.....	.....	.....	.....	.....	Leading lights.
243	.....	.....	.....	1877	.....	*Red* seaward; *green* from the bearing SW. by W. into Newbiggin Bay. Shown during herring season.
244	Square white tower with turreted parapet.	83	72	1841	D. 1st ord ..	Upper light *white*, visible from seaward between S. by W. ¼ W. and N. ¼ E.; and *red* from S. by W. ¼ W. to S. by W. to cover Boulmer Bush and Boulmer Stile rocks. A dim light is seen round remainder of circle, except from S. by W. to S. ¼ E. A second light, 28 feet below the above light, is shown from the same tower; it is *white* between N. N. W. ¼ W. and N. by W., and *red* from N. by W. to N. by E. ¼ E. over the Bondicar Bush shoal. When the upper light is lost sight of, the line of Hauxley Point and Bondicar Bush will be passed, and while in the red light great caution is necessary in approaching the shore. *Will be altered to intermittent, suddenly disappearing for five seconds every minute.*
	.....	55	.....	.....	.....	
245	.....	55	.....	1848	.....	Light shown while 10 feet on the bar. Extinguished when approach is dangerous. Shows *white* southward of W. by N. ¼ N., and *red* northward.

ENGLAND—EAST

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″					
	North Sunderland.	Pier head	55 35 0	1 38 50	1	White			
		100 yards in rear of pier head.			1	Red	F		
246									
246a		NW. pier head			1	White	F		
246b		Inner arm of do., and old pier head.			2	Red. SW. by W. ½ W. 111 yards apart.	F		
247	Farn Islands. Farn	High near southwest point of island; low near northwest point.	55 37 0	1 39 0	2	High, white and red. Low, white S. by E. ½ E. easterly, 187 yards apart.	Fl F		15 12
248	Longstone	On western side of the islet.	55 39 0	1 37 0	1	White	Rev	Half minute.	14
249	Berwick	Pier head	55 46 0	1 59 0	2	High light white, low one red; in the same tower.	F		12 8

SCOTLAND-

280	Burnemouth	Pier head	55 50 30	2 4 15	1	White	F		8
281	Eyemouth	Corner of a house and west pier head.	55 52 25	2 5 0	2	Upper red, lower white.	F		10
282	Coldingham	On north and south piers.	55 53 30	2 8 0	2	Red and green			
283	St. Abbs Head	On head	55 55 0	2 8 0	1	White	Fl	Ten seconds.	21
284	Dunbar	On battery pier head, old harbor.	56 0 0	2 30 40	1	White in direction of entrance; green to westward; red to eastward.	F		5
285		On middle quay, Victoria harbor.			1	Red	F		
286	North Berwick	North pier head			1	Red seaward; white towards harbor.	F		
287	Fiddra Island	Near summit of island.	56 4 20	2 46 50	1	White	Group Fl.	Fifteen seconds.	17
288	Port Seton	East pier head			1	Red seaward	F		6
289	Cockenzie	Eastern pier head.			1	White	F		8
289a	Morrison's Haven.	South pier	55 57 10	3 0 30	1	White with red sector.	F		

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
	.....	.....	.....	1877	.....	Leading lights bearing NE. by E. ½ E. and SW. by W. ½ W., shown from half an hour after quarter flood to half an hour before three-quarters ebb.
	.....	.....	.....	1877	.....	
246						
246a	.....	.....	.....	.....	.....	Will be visible from north to SE. *Intended.*
246b	.....	.....	.....	.....	.....	Will be shown regularly only during fishing season from about half flood to half ebb. *Intended.*
247	Both white	87	43	1776	.....	Low light is visible between S. S. E. ½ E. and S by E., but is not visible from the southward. High light shows two *white* flashes and one *red*. The duration of each flash and each eclipse is 20 seconds.
	.....	45	27	1810		
248	Red.....	75	85	1826	D, 1st Ord..	Dangers extend more than three-quarters of a mile northeast of the light-house. A fog siren in thick or foggy weather gives two blasts in quick succession every two minutes.
249	Stone, red top.....	48	44	.....	D.....	Low light shown while 10 feet on the bar. Berwick Pier light is only visible when eastward of the Seal Carr ledges.
	.....	28				

EAST COAST.

280	Small iron tower..	19	.....	1878	Oil.....	Fishing light; shown when safe to enter. Also two leading lights, *red* and *white*, for entering harbor.
281	.....	20	.....	1857	Gas.....	Leading lights.
		30				
283	Posts	18	.....	.....	Oil.....	Leading lights, shown on dark and stormy nights when boats are at sea. *Red* only when tide is out.
283	White	224	29	1862	D, 1st Ord..	In thick or foggy weather a siren—at a height of 245 feet above the sea—will sound for six seconds, with intervals of one and a quarter minutes between the blasts.
284	White mast.....	30	.....	1857	Oil.....	
285	Pillar.....	20	.....	.....	Gas.....	There are also additional lights at the old and new harbors in the fishing season for the use of fishermen.
286	Post.....	24	.....	.....	Gas.....	Shown on dark nights when boats are expected.
287	Red brick	113	56	1885	C.....	Shows two flashes in quick succession every fifteen seconds.
288	Post.....	20	.....	1880	Gas.....	Shown on dark nights when boats are expected.
289	Post.....	15				
289a	Post.....	16	.....	.....	Oil.....	*White* from SE. to NW.; *red* from NE to E.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″					
290	Firth of Forth—*continued.* Fisherrow..	East pier head..	55 56 55	3 4 0	1	Red.....	F.....	.....	8
291		East pier, inner part, about 680 yards from extremity.	55 59 0	3 10 0	1	Red.....	F.....	.....	8
292	Leith.....	East pier head..	.....	.....	1	Green.....	F.....	.....	8
293		Extremity west pier.	.....	.....	1	White.....	F.....	.....	10
294	Newhaven..	Outer end of east pier.	55 59 0	3 11 0	1	White.....	F.....	.....	12
295		On main pier head.	55 59 0	3 15 0	1	Red.....	F.....	.....	8
296	Granton..	East breakwater head.	.....	.....	1	Green.....	F.....	.....	6
297		West breakwater head.	.....	.....	1	Red.....	F.....	.....	7
298	Inch keith..	Summit of island	56 2 0	3 8 5	1	White.....	Rev..	Half minute.	21
299	Oxcar rock.	On rock.....	56 1 20	3 16 40	1	White, with red sectors.	F.....	.....	13
300	Newhalls...	Outer end of pier.	.....	.....	...	White..... ...	F	.....	....
301	South Queensferry (Port Edgar).	End of west pier	.....	.....	1	White.....	F.....	.....	....
302	Bo'ness.	Pier heads.....	.....	.....	2	Green.....	F.....	.....	....
303	Grangemouth.	Entrance of river Carron, end of south embankment.	.....	.....	1	Red.....	F.....	.....	10
304		North side of entrance.	.....	.....	1	Red.....	F.....	.....	....
305	Alloa.....	Pier end, entrance to dock.	.....	.....	2	Red.....	F.....	.....	....
305a		Railway bridge.	.....	.....	6	Two white and red on each side of bridge.	F.....	.....	....
306	Cnarleston..	End of outer pier.	.....	.....	1	Red.....	F.....	.....	....
307	North Queensferry.	End of railway pier.	.....	.....	1	White.....	F.....	.....	....
308	Inch Garvie.	Forth bridge works.	.....	.....	1	White.....	Fl....	Five seconds	....
309	Inverkeithing.	West quay of harbor.	.....	.....	2	Red.....	F.....	.....	....
310	St. David...	Pier head.....	.....	.....	1	White.....	F.....	.....	....
311		Head of east pier of harbor.	56 4 0	3 14 0	2	Red over white or green.	F.....	.....	....
312	Burnt Island.	Head of west pier of harbor.	.....	.....	1	Green.....	F.....	.....	8
313		Ferry pier.....	.....	.....	1	White.....	F.....	.....	....
314		New pier.....	.....	.....	1	White.....	F.....	.....	....
314a	.....	.....	.....	.....	...	.....	.....	.....	....

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
290	Post	18	.....	1889	Gas	
291	White	22	19	1758	Gas	
292	Red	17	.....	.....	D. 6th Ord.	
293	.....	28	15	1829	D. 4th Ord.	A *red* light indicates 10 feet on Victoria dock sill; *red* light with *white* under indicates 15 feet; and *red, white, green* (vertical) indicate 20 feet. 1, 2, 3, or 4 smaller lights to the left of these indicate 1, 2, 3, or 4 feet more respectively, in each case. A bell at west pier head is sounded during fogs.
294	White, iron tower.	54	.....	1869 1879	D. 5th Ord.	Light strengthened in the direction of Herwit shoal.
295	Stone tower	50	40	1845	D. 4th Ord.	
296	Wooden tower	15	12	.....	Oil	A bell is sounded during foggy weather, when steam vessels are expected.
297	Iron tower	17	12	.....	Gas	
298	Stone	220	58	1804	D. 1st Ord.	
299	White	4	73	1886	D. 3d Ord.	*White* to the westward between (about) E. ¼ S. and E. by S. ¾ S.; and *white* to the eastward between (about) SW. ¾ W. and NW. by N. *Red* in other directions.
300	.....	.....	.....	.....	Oil	For use of barges, etc.
301	White tower	11	.....	.....	Paraffin oil	
302	Posts	20	.....	.....	Gas	Show *white* in the harbor.
303	White, stone	30	31	1876	D. 5th Ord.	
304	Wood beacon	20	.....	1876	.....	*Apparent* or *reflected* light, to guide vessels into the river.
305	Pillar	6	.....	.....	Gas	Not shown in May, June, and July. At entrance to Old harbor, two *white* lights with one *red* above are shown from a pillar.
305a	.....	34 29	.....	1888	.....	The *white* lights are on the piers, the *red* lights on out water. When the bridge is shut, the lights on out water are *red*; with the bridge open the red lights are changed to white.
306	Wooden tower	14	.....	1866	D. 6th Ord.	
307	Tower	12	.....	.....	Paraffin	Shown when ferry boat is working.
308	.....	30	.....	1886	Oil	A fixed *white* light is shown from the end of each cantilever of Forth bridge, defining both the north and south navigable channels.
309	Pillar	.....	.....	1856	Gas	
310	Stone tower	20	.....	1866	.....	Shows *red* in direction of pier head.
311	Tower	25	25	1860	Gas	The *white* light in the lower part of the light tower is shown when channel is clear; when dangerous to enter it is changed to *green*.
312	Pillar	15	.....	1879	Paraffin.	
313	Stone	16	9	1853	Gas.	
314	.....	16	.....	1867	Oil.	
314a	.....	.....	.....	.....	.....	

No.	Name of light.	Position.	Latitude. North. ° ′ ″	Longitude. West. ° ′ ″	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
	Firth of Forth—*continued.*								
315	Kirkcaldy.	90 feet from east pier head.	.....	.....	1	Red and white.	F	.....	.....
		End of west pier.	.....	.....	1	White	F	.....	.....
316	Dysart	End of east pier.	56 7 30	3 7 0	1	White	F	.....	8
317	West Wemyss.	Pier head	.....	.....	1	Red	F	.....	.....
318	Buckhaven .	On east pier head.	56 10 6	3 1 44	...	White	F	.....	9
318a	Methill	Pier head	56 10 50	3 0 30	2	Red	F	.....	.....
319	Elie	Pier end	56 11 10	2 49 0	1	White	F	.....	.....
320	St. Monans	On east pier head.	56 12 3	2 46 15	1	Red	F	.....	6
		On west pier head.	.....	.....	1	Green	F	.....	.....
		On shore	.....	.....	1	Leading light, red.	F	.....	.....
321	Pittenweem.	East pier head..	56 13 0	2 43 30	1	Red. NE. ¾ E. and SW. ¾ W.	F	.....	.....
322		Southwest angle of a disused sawmill.	.....	.....	1	Red	F	.....	.....
323	Anstruther Union Harbor.	East pier head..	56 13 16	2 41 53	1	Red	F	.....	4
324		West pier head.	.....	.....	1	White	F	.....	6
325		Shore end of pier and side of East Green st.	.....	.....	2	Green	F	.....	.....
326		End of curing premises.	.....	.....	1	White	F	.....	.....
327	Cellardyke .	On side of house on west pier.	56 14 0	2 40 0	1	Red	F	.....	.....
328	May Island.	Summit.....	56 11 9	2 33 22	1	White.....	Group Fl.	Half min.	21
329									
330	Crail	Top of cliff	.....	.....	2	Upper red, lower white.	F	.....	6
331	North Carr	Light-vessel in 22 fathoms, about 8 cables eastward of North Carr rock.	56 17 30	2 33 0	1	White	F	.....	11
332	Bell rock	Near north end of reef.	56 26 3	2 23 6	1	White and red alternately.	Rev ..	One minute	15
333	St. Andrews ..	Pier head	56 20 3	2 47 0	1	Red and green	F	.....	.....
334		Turret on cathedral wall.	.....	.....	1	White	F	.....	1
	River Tay, Trinity House, Dundee.								
335	Abertay ...	Light-vessel in 5½ fathoms, opposite Abertay spit.	.....	.....	1	White	Fl	Ten seconds	.....
336	Buddonness	On ness.	56 28 7	2 44 53	2	White, NW. ¼ N. and SE. ¼ S. 401 yards apart.	F	.....	16 13

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
....	Post	28	.....	.....	Gas.....	Shows *white* when harbor entrance is open.
315	.....					
.....	Post	15	.....	.....	Gas.	
316	Pillar	20	.....	.....	Gas.	
317	Lamp-post	21	.....	.....	Gas.....	Shown from half flood to half ebb.
318a	Iron tower, white.	16	9	1854	Gas.....	A *red* light is shown from the foot of the east pier during winter when boats are expected and tide will permit of entry.
318	Tower	25	.....	.....	Oil.....	Apparent *white* light on beacon, west side of entrance.
319	Pillar	16	.....	.....	Gas.....	From 1st October to 1st March.
.....	Post	16	.....	1855 1878	Gas.....	
320	Post	27	.....	.....	.....	
.....	Pillar	.....	.....	.....	Gas	Shown only when boats are expected and tide permits of entry.
321	Red box	25	7	1853	Gas.....	Shown all night, except from 15th May to 15th July.
322	Lantern on wall	72	.....	1853	D. 6th Ord.	Shown all night, except from 15th May to 15th July. When fishing boats are out, and there is 6 feet water in harbor, a *white* light is shown from a lamp-post 50 feet above high water and visible 7 miles.
323	Pillar	23	.....	1876	Gas.	
324	Tower	35	30	1860	Gas.	
325	Masts	28 37	.....	.....	Gas.....	Leading lights into harbor, from 1st, October to 1st May.
326	On wall	27	.....	.....	Gas.....	At tide time from 1st October to 1st June, when boats are out and 6 feet in inner harbor.
327	.....	.....	13	.....	Gas.....	Shown only when boats are out.
328	Stone	240	78	1816 1886	Electric ...	Four flashes in quick succession.
329						
330	Stone towers	100 80	.....	.....	Gas.....	On tops of the old beacons. Not shown during May, June, and July, or when harbor is closed by booms.
331	Red, with red conical cage.	36	.....	1887	.....	*North Carr* on sides. Fog siren gives two blasts (high, low) of two seconds duration each in quick succession every two minutes.
332	White	98	117	1811	C. D. 1st Ord.	The base of light-house is covered about 10 feet at high water. In foggy weather a bell is sounded every half minute. Explosive signal now being erected. A charge will be exploded every 10 minutes.
333	Iron pillar	30	18	1825	.....	*Red* toward entrance channel.
334	.....	80	.....	1849	D. 7th Ord.	
335	Red, two masts	35	.....	1877 1885	.....	*Abertay* on sides. Fog siren, three blasts in succession, each blast of five seconds duration, every three minutes.
336	White towers	103 61	104 65	1820	D. 3d Ord ..	Leading lights towards mouth of river.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
337	River Tay, Tyrnity House, Dundee—Cont'd. Tayport or Ferry Port-on-Craig.	High light house half a mile west of village. Pile light-house southeastward of high light-house.	56 27 0	2 49 0	2 White, WNW and ESE. 1,700 yards apart.	F		12 10
338	Newport	On west ferry pier.	56 26 0	2 57 0	2 White	F		
339	Dundee harbor.	Middle and east piers.	56 28 0	2 58 0	2 Red. NW. by W. and SE. by E., 130 yards apart.	F		7
340		Camperdown dock, on each side of entrance.			2 Red	F		3
340a	Tay bridge	On each side of bridge, the white lights being inside.			2 Red 2 White	F F		
341	Arbroath	East pier	56 33 0	2 35 0	1 Red and white.	F		
342		West pier			1 White	F		
343		Bell rock signal tower.			1 Red	F		
344		West side of harbor.			1 Green	F		
345	Montrose	On Scurdy ness.	56 42 5	2 26 9	1 White	Int	One minute.	17
346		North side of entrance.			2 Red. N. W. by W. ¼ W. 320 yards apart.	F		10 11
346a		S. E. of Rossie Island.			2 Green. W. by N. 330 yards apart.			
347	Johnshaven	Shorehead, and West Brae head.	56 47 40	2 20 0	2 White	F		
348	Gourdon	End of house, and on hill behind.	56 49 40	2 17 0	2 White	F		
349	Stonehaven	Inner side of harbor.	56 58 0	2 12 0	2 Seaward or lower light white, the inland or upper red. W. by N. ¼ N. and E. by S. ¼ S.	F		8
350	Girdleness	On the ness	57 8 33	2 4 6	2 White, vertical, in same tower.	F		19 16

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
337	White tower. White, on piles.	80 30	76 53	1829 1845	C. D ..... C. D	Leading lights for fairway up the river. In foggy weather a bell is sounded at pile light-house. *White* lights are shown on pier heads of Tayport harbor, and at Broughty ferry on north side of the river.
338	Lamp-posts.....	14 24	.....	.....	Gas.....	Ferry lights. There are also *red* and *white* leading lights at Ferry harbor.
339	Green post..... Gray tower	25 25	.....	1827	.....	In line, lead southwest of Beacon rock.
340	Posts	19	91	1865	Gas.....	In the fairway of approach. Shown at tide time only.
340a	.....	.....	.....	.....	.....	Temporary lights to indicate navigable spans.
341	Tower.....	20	.....	.....	Gas.....	*Red* when 10 feet water in harbour, and entrance safe; *white* when less than 10 feet.
342	Pillar.....	18	.....	.....	.....	Apparent light.
343	Post.....	18	.....	.....	Gas.....	In bad weather all the lights are changed to *green*, when unsafe to enter.
344	Post.....	34	.....	.....	Gas.....	
345	White brick.....	124	127	1870 1881 1885	D. 2nd Ord .	The periods of light are 30 seconds, and darkness 30 seconds. Visible from S. W. ¼ S., through west, to about N. E., ¼ N., or as far as the land will allow. A light of less power, but of same character, is shown from the lantern up the channel towards Montrose harbour. Fog bell on Scurdyness sounded when fishing boats are at sea.
346	White	60 40	65 39	1818	.....	Leading lights into river.
346a	White iron tripods.	.....	30 40	1898	Oil.....	Shown when vessels are expected. Leading lights to mooring buoys off dock.
347	Posts.....	12 63	.....	.....	Paraffin oil.	Shown when boats are at sea.
348	Pillars.....	18 100	.....	.....	Paraffin oil.	Leading lights, shown when boats are at sea.
349	Lamp posts.....	20	.....	1839	Gas.....	
350	Stone	185 115	120	1833	D. 1st Ord . C.	Fog whistle on the ness during thick weather, at intervals of one minute; the sound lasts about ten seconds.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″				
351		Near north pier head.	.....	.....	1 White	F	.....	8
352	Aberdeen	End of south breakwater.	.....	.....	3 Red, white, and green, vertical.	F	.....	.....
353		Torry, half a mile up the harbor on south shore.	.....	.....	2 Red or green. W. by S. 220 yards.	F	.....	8
354	Port Erroll	Pier head	.....	.....	1 White	F	.....	.....
355	Buchan Ness	On ness	57 28 15	1 46 22	1 White	Fl	Five seconds	17
356	Bodham	Mukle Camel rock, and on Harbor street.	.....	.....	2 Red	F	.....	.....
357		Lighthouse bridge and Robbie Rock.	.....	.....	2 Red	F	.....	.....
358	Peterhead	South harbor, elbow of west pier.	57 30 10	1 46 20	1 White, with red sector.	F	.....	10
358a		On cant of south-west pier.	.....	.....	2 Green	.....	.....	.....
358b		Inner face of south pier.	.....	.....	1 Red	.....	.....	.....
359		North harbor, west pier head.	.....	.....	1 Red	F	.....	10
360	Fraserburgh	Middle and north piers.	57 41 30	2 0 0	2 Red	F	.....	5
361		On end of breakwater.	.....	.....	1 Green	F	.....	5

362	Kinnaird Head	On head	57 41 52	2 0 10	1 White with red sector.	F	.....	17
363	Sandhaven	Pier end, and shore.	.....	.....	2 White	F	.....	.....
364	Rosehearty	On Tam head pier.	57 42 0	2 6 30	1 White	F	.....	5
		Old Harbor	.....	.....	2 Red	F	.....	.....
		Port Rae	.....	.....	2 Red	F	.....	.....
365	Gardenstown Harbor.	East pier head	57 40 0	2 20 0	1 White and red sectors.	F	.....	.....
366	Macduff	North pier head	57 40 0	2 30 0	1 White with red sector.	F	.....	6
367	Banff	North pier head	57 40 0	2 31 0	1 White	F	.....	8
368	Portsoy	On pier	.....	.....	1 White	F	.....	.....
		On hill	.....	.....	1 Red	F	.....	.....
369	Cullen Harbor	Pier head	57 41 30	2 49 30	1 White	F	.....	.....
370	Findochty	Pier head	.....	.....	1 White	F	.....	.....
371	East Buckie	Point of north breakwater, and inland about 500 yards.	57 40 45	3 2 30	2 White	F	*See remarks.*	.....

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
351	White tower	38	29	1866	D. Gas	Shown from half flood to half ebb, but only when pilot vessels can enter with safety.
352	Gray tower	88 84 80			D. 8th Ord. Gas.	In the same tower, upper *red*, middle *white*, lower *green*, 4 feet apart.
353	White towers	62 45			Gas	These leading lights show *red* when entrance is safe, but *green* when it is unsafe.
354	Pillar	28			Paraffin oil	During fishing season, also two *red* leading lights, one light being lowered when there is not sufficient water to enter.
355	Stone	130	115	1827	C	Visible from N. E. ¾ E., through north, to S. by W.
356	Pillars	29 41			Colza oil	Leading lights for sou h entrance. From 1st August to end of herring season.
357	Pillars	29 21				Leading lights for north entrance. From 1st August to end of herring season.
358	Stone	24	26	1834	D	Shows *red* from about N. E. ¾ E. to E. N. E.
358a		15 22		1888		Leading lights for deep water, in line E. by N. ¾ N.
358b						In foggy weather a whistle and a siren on Greenhill give two blasts of different pitch in quick succession every minute; whistle 10 seconds, silence 3 seconds, siren 10 seconds, silence 37 seconds.
359	Stone	26	32	1849	C. D	Visible between S. W. ¾ S. and W. ¾ S. When, in the opinion of the harbor master, the state of the sea is such as to endanger boats entering, a *green* light will be hoisted on a pole 41 feet above high water mark, on the elbow of the north breakwater.
360	Iron pillars	35 20	29 9	1841		Leading lights into south harbor. To clear Cairnbulg Briggs keep high *red* light open of *green* light on breakwater.
361	Tower	75		1882	Paraffin	

EAST AND NORTH COASTS.

362	White	120	76	1787	D. 1st Ord.	*White* from E. by S. ¾ S., through south, to N. W. by N.; then *red* northerly as far as the land, to indicate Rattray Briggs rocks.
363	Masts	50 19			Paraffin oil	Shown when boats are at sea.
364	Tower Posts Posts	30			D.	Leading lights for old and new harbors, Shown during fishing season.
365	Concrete tower	20		1877	D	Harbor light. *White*, eastward of N. W.; *red*, westward of N. W.
366	Tower	25			C. D	Shows *white* in the direction of Collie rocks.; *red* to the westward.
367	Post	28	14	1832	Gas	Also two leading lights, *white* and *red*, at west end of outer harbor, not seen by vessels at sea until harbor is open.
368	Concrete tower Pole	40 50				Leading lights. A *green* light is shown beneath the *red* when unsafe to enter.
369	Iron pillar	23		1866	Gas	
370	Tower	25			D. 8th Ord.	A *red* light on the land is occasionally used as a tidal and leading light.
371	Towers	80			Gas	Leading lights. *Green* light on south pier head, shown when entrance is dangerous. *Red* light on middle jetty shown at tide time.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″					
372	Buckpool	Rising ground southeast of pier.			1	White	F		
373	Port Gordon	Near heel of east pier.			2	Outer red, inner white.	F		
374	Elgin and Lossiemouth.	South pier head.			1	Green	F		
375	Covesea Skerries.	Craig head	57 43 15	3 20 20	1	White with red sector.	Rev...	One minute.	18
376	Burghead	North pier head.	57 42 0	3 30 0	1	White	F		10
377		End of timber spur.			1	Red	F		
378		End of south pier			1	Red	F		
379									
380	Nairn	300 yards from pier head.	57 35 20	3 51 30	1	White	F		
		West pier head			1	White, with red and green sectors.	F		
381	Fortrose	On pier	57 34 20	4 8 40	1	Red	F		
382	Chanonry	On point	57 34 30	4 5 0	1	White	F		11
383	Inverness	Thornbush pier.			2	Red	F		
384	Cromarty	On point at town	57 41 0	4 2 0	1	Red	F		13
385	Tarbet Ness	430 yards from the extremity of the point.	57 51 54	3 46 30	1	White	Int ...	Visible 2½ minutes, eclipsed half a minute.	18
386	Little Ferry	North side of entrance.	57 56 0	4 0 0	2	White. NW. ¼ N. and SE ¼ S. 600 yards apart.	F.		3
387	Dunbeath Harbor.	North side of entrance.	58 14 45	3 25 25	2	Outer red, inner white.	F		
388	Lybster Harbor.	Near pier end	58 17 40	3 17 15	1	Red	F		
389	Wick	North pier end	58 26 0	3 5 0	1	Red	F		
390		On shore above harbor.			1	Green	F		
391	Noss Head	On head	58 28 38	3 3 5	1	White, with red sector.	Rev ..	Half minute.	18
392	Keiss	End of west pier.			1	White	F		
393	Pentland Skerries.	On island	58 41 22 High light.	2 55 25	2	White. N. by E. ¼ E. and S. by W. ¼ W. 33 yards apart.	F		19 18
394	Dunnet Head	On head	58 40 16	3 22 25	1	White	F		24

NORTH COASTS—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
372	.....	75	.....	.....	Gas.	
373	Post	26	.....	.....	Paraffin	Shown all night from 1st August to 1st April.
374	Masts	33 30 25	.....	1858	Paraffin	A *white* light is shown from end of north pier when boats are at sea, which is changed to *red* when entrance is dangerous.
375	Stone	160	118	1846	D. 1st Ord	*White* from E. by S., through south, to N. W. by W. ½ W., then *red* throughout Spey bay.
376	Tower	25	23	1883	Paraffin.	
377	Small structure...	11	.....	.....	.....	Seen to southwest only.
378	....do	9	.....	1883	Paraffin	
379	.....	.....	.....	.....	.....	
.....						From 1st September to 1st May. *White* from East head to S. W. by W., *red* from S. W. by W., through south, to S. E. by E., *green* from S. E. by E. to whiteness.
380	Lamp posts	18 20	.....	.....	Gas	
.....						
381	Post	12	.....	1881	Paraffin.	
382	Stone	40	42	1846	D. 4th Ord.	
383	Posts	30 25	.....	.....	Gas	Leading lights. Also a *green* light on Cairnark, Bankend, and a *red* light on the head of upper quay. Upper quay light only shown when town lamps are lighted, visible from E. S. E., round southerly, to N. W. by W.
384	Stone	60	42	1846	D. 4th Ord.	Occasional lights are shown from the jetty heads at Invergordon.
385	Stone, red.....	175	134	1830	C	The light between N. ½ E. and NE. by E. is fixed.
386	Wooden tower	18 25	.....	.....	.....	Lighted when required.
387	Lamp posts.....	22	.....	.....	Paraffin	Shown from half flood to half ebb when boats are expected. When harbor unsafe, the lights are altered to—outer *white*, inner *red*.
388	Tower	35	.....	1884	D. 5th Ord. Paraffin.	
389	Tower	37	.....	.....	Gas	The *green* light open of *red* light clears wreck of ruined breakwater on south shore. Two *white* lights, 20 and 28 feet high, are shown from end of new pier, and a *green* light from pilot's look-out at South head when dangerous to enter the bay, and at such times the two white lights are not exhibited.
390	Tower	41	.....	.....	Gas	
391	Stone	175	.....	1849	D. 1st Ord..	The light is *white* from NE., through north and west, to SW. by S.; and *red* from SW. by S., through south, to E. by S. ½ S., in Sinclair Bay.
392	Post	16	.....	.....	Paraffin	Shown at tide time when boats are expected.
393	Stone	170 140	118 88	1794	D. 1st Ord. D. 1st Ord.	
394	Stone	346	66	1831	D. 1st Ord.	

SCOTLAND—EAST AND

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			°North. ′ ″	West. ° ′ ″				
395	Holburn	On Little head, west side of Thurso Bay	58 36 55	3 32 20	1 White, with red sector.	Fl	Ten seconds	14
	Stroma (beacon light).	Stroma — north end.				Sc		
396	Cantick	On head, southeast extremity of South Walls.	58 47 18	3 7 50	1 White	Rev	One minute.	16
397	Hoysound	High light on the northeast point of Germea island.	58 56 10	3 16 12	1 Red, with white sector. SE. ⅛ E. and NW. ⅛ W. 2,237 yards apart.	F	See remarks.	16
398	Orkney Islands.	Low light on the northwest point of the island	58 56 25	3 18 25	1 White	F		13
399	Stromness	On pier			2 White	F		
400	Kirkwall	New pier head	58 59 10	2 57 30	1 White	F		10
401	Auskerry	On south part of island, Stronsa firth.	59 1 25	2 34 20	1 White	F		16
402	Start Point	On east point, Sanda Island, Ronaldsha firth.	59 16 45	2 22 25	1 Red	F		14
403	North Ronaldsha.	On north point of Orkneys.	59 23 24	2 23 45	1 White	F	Ten seconds	18
	Fair Isle							

SCOTLAND—NORTH

404	Sumburgh Head.	Southwest point of Shetlands.	59 51 15	1 16 20	1 White	F		24
405	Bressay	East side of entrance to Lerwick.	60 6 10	1 7 30	1 Red and white alternately.	Rev	One minute.	16
406	Lerwick	End of pier			1 Red	F		
407	Out Skerries.	Bound Skerry	60 25 24	0 44 0	1 White	Rev	One minute.	18
408	Shetland Islands. North Unst.	Muckle Flugga, north part of island.	60 51 22	0 53 0	1 White, with red sector.	F		21
409	Cape Wrath	Northwest point of Scotland.	58 37 30	4 59 41	1 White and red alternately.	Rev	One minute.	27
410	Ru Stoer (Stoer Head).	South Ear of Ru Stoer.	58 14 10	5 23 0	1 White	Int	Visible one minute; eclipsed half a minute.	20
411	South Rona	Northeast point of island.	57 34 30	5 57 25	1 White	Fl	Twelve seconds	21
411a	Portree	On pier	57 24 30	6 11 0	2 White	F		
412	Cat Islet	South side loch Carron entrance.	57 21 0	5 38 30	1 White, with red sectors.	F		
412a	Strome	End and center of pier.	57 21 15	5 33 0	1 White	F		
413	Kyle Akin	Southwest point, Gillean Island, west entrance, loch Alsh.	57 16 39	5 54 28	1 White and red.	F	See remarks.	13

NORTH COASTS—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
395	White	75	55	1862	D. 4th Ord.	*White* towards Pentland firth and Thurso Bay till it bears NNE. *Red* towards Scrabster road.
.....	.....	.....	.....	.....	.....	Lindberg light, experimental.
396	White	115	73	1858	C. D. 2d Ord.	
397	Stone	115	108	1851	C. D	The high light is *red* when seen from seaward but *white* when between SSE. ½ E., and SW. by W. ½ W.; it also lights a small arc towards Cava in Scapa Flow between N. ½ W. and NNW. ½ W. The low light is *white*, and is visible from the northward between E. ½ S. and W. ½ N. When the lights are in one they lead between the rocks of Bow and Kirk; when within half a mile of shore on this line the high light disappears below foreground.
398	.....	55	38	1851	C. D	
399	Posts	.....	.....	.....	Gas	Shown only when the regular steamers are in or expected.
400	Tower	31	.....	1854	C. gas	Shown from 1st August to 30th April.
401	White brick	110	112	1879 1867	D. 1st Ord.	
402	White brick	80	75	1806	D. 3d Ord.	
403	Red brick *Two white bands.*	140	139	1854	D. 1st Ord.	
.....	.....	.....	.....	.....	.....	Light-house and fog signal proposed to be erected at the north and south ends of the island.

AND WEST COASTS.

404	Stone	300	55	1821	D. 1st Ord.	
405	White	105	53	1858	C. D. 2d Ord	
406	Post	16	.....	.....	Gas	
407	Brick, white	145	98	1854	D. 1st Ord.	
408	Red brick	230	64	1854	D. 1st Ord.	*Red* sector between NNW. ½ W. and NW. by W. ½ W.
409	Stone, white	400	65	1828	C. 1st Ord.	
410	White	195	47	1870	C. D. 1st Ord	
411	White	222	42	1857	C. D. 2d Ord	Visible from NNE., through north and west, to E. by N. ½ N.
411a	Lamp posts	16	.....	.....	.....	
412	Tower of masonry.	30	.....	.....	D. 6th Ord.	Occasional light. Shown during fishing season.
412a	P os	12	.....	1888	.....	Shown when steamers are expected.
413	White	53	70	1857	D	Light *red*, with *white* sectors between SSE. and SE. by E. and between NW. ½ W. and NW. by W. ½ W.; northward between NW. by W. ½ W. and S. by W. ½ W. the light is masked.

SCOTLAND—NORTH AND

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″					
414	Oronsay	On island northwest part of Sleat Sound.	57 8 40	5 46 50	1	White	F		13

SCOTLAND—

415	Hebrides, or Western Islands.	Butt of Lewis.	North point of Hebrides.	58 30 40	6 16 0	1	White	F		19
416		Ness, Port	On high ground			1	Red	F		
417		Loch Carloway.	North side			1	White	F		
418		Stornoway	Arnish Point	58 11 28	6 22 10	1	White	Rev	Half minute.	13
419			Arnish Reef			1	White	F		
420			On wharf			1	Red	F		
421		East Loch Tarbert.	On new pier at head of loch.			1	Red	F		
422		Monach	West side of Shillay Island, Monach Islands.	57 31 34	7 41 38	1	White	Fl	Ten seconds	18
423		Glas (Glass) Island.	Southeast extreme of Scalpay Island.	57 51 25	6 38 28	1	White	F		17
424		Loch Skiport.	Pier head			1	Red	F		
425		Ushinish	East side, south Uist.	57 17 55	7 11 31	1	White	Occ	Visible 8 seconds, eclipsed 16 seconds.	18
426		Loch Boisdale.	On pier			1	Red	F		
427		Castle Bay	On pier			1	Red	F		
428		Barra Head.	Highest part of Berneray Island.	56 47 8	7 39 9	1	White	Int	Visible ½ minute, eclipsed ½ minute.	22
429		Skerryvore	On rock, 9 miles SW. by W. from Tiree Island.	56 19 22	7 6 32	1	White	Rev	One minute.	18
430		Dubh Artach (Dhu Heartach) Rocks.	On rock	56 8 0	6 38 0	1	White	F (Occ).		18
431		Ardinamurchan.	On point	56 43 38	6 13 29	1	White	F		18
432		Mull Sound	Runa Gal rock, 50 yards seaward of high-water mark.	56 38 0	6 4 0	1	Red, green, and white sectors.	F		12
		Gray rock (beacon light).	Gray rocks, sound of Mull.					Sc		
433		Lismore	Mousedale Island	56 27 19	5 36 22	1	White	F		16

WEST COASTS—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
414	White	58	63	1857	D. 4th Ord.	Visible from NE. ¼ E., through north and west, to S. ¼ E.

WEST COAST.

415	Red brick	170	120	1862	D. 1st Ord.	Visible between N. by W. ¼ W., through west and south, to E. by N. ¼ N.
416	Post	50			Paraffin	*Red* towards entrance, *white* over harbor. Shown when boats are at sea.
417						
418	White	56	45	1852	C.D. 3d Ord	
419	Beacon			1852		An apparatus on the top of a beacon, standing on the southeast end of Arnish Reef, reflects a light from a window in the lower part of the light-house between N. by W. and W. by N., to assist vessels in avoiding the reef.
420	Post				Gas	
421				1876		
422	White	150	133	1864	D. 1st Ord.	
423	Red stone tower	130	100	1789	D. 1st Ord.	
424		7			Paraffin	Shown only when steamers are expected.
425	White	176	89	1857 1885	D. 1st Ord.	Visible from NNE., through west, to SW. ¼ S.
426		10			Paraffin	Shown only when steamers are expected.
427	Pillar	12			Paraffin	Shown only when steamers are expected.
428	Stone	683	60	1883	D. 1st Ord.	Visible in all directions where not obscured by the islands to the northeastward.
429	Stone	150	158	1844	D. 1st Ord.	Fog bell every half-minute.
430	Gray granite. *Red band, 30 feet wide.*	145	126	1872 1883	D. 1st Ord.	A sector of occulting light from S. by W. ¼ W., through west, to W. ¼ N., showing alternately for 30 seconds and 15 seconds with intervals of about 10 seconds of darkness. In foggy weather a bell is sounded rapidly for 10 seconds, silent for 10 seconds.
431	Stone	180	118	1849	D. 1st Ord.	Visible from NNE. ¼ E. through east, to SW. by W. ¼ W.
432	White	55	63	1857	D. 4th Ord.	*Red* light northward or seaward, *green* toward New, Red, and Stirk rocks, and *white* toward Mull sound.
						Lindbey light. Experimental.
433	White stone	108	86	1833	C. 1st Ord.	Obscured between the bearings of NE. ¼ E., through south and west.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″					
434	Corran Point ...	Loch Eil.....	56 43 16	5 14 28	1	Red, with white sector.	F.....	.....	11
435	Oban	On pier	56 24 50	5 28 20	1	White and red	F.....	.....	.....
436	Phladda Island	North end of Scarba Sound.	56 14 48	5 40 51	1	White with a red sector.	F.....	*See* remarks.	11
437	Crinan Canal ...	On wing of sea lock.	56 5 30	5 33 0	1	Red and white	F.	.....	4
438	Sgeir Maoile (Skervuile) or Iron Rock.	On the rock, sound of Jura.	55 52 30	5 50 0	1	White	Rev...	Half minute	14
439	Rudha Mhail (Rhu Vall).	North point of Islay Island.	55 56 6	6 7 30	1	White, with red sector.	F.....	.....	18
440	Mac Arthur Head.	South end of Islay sound.	55 45 50	6 2 50	1	White, with red sector.	F.....	.....	18
441	Rhynns of Islay.	Oversay Island off SW. point of Islay.	54 40 20	6 30 46	1	White	Fl	5 seconds.	18
442	Loch-in-Dail....	Dun Point, half a mile north of Port Charlotte.	55 44 40	6 22 15	1	White and red sectors.	F.	.....	12
443	Port Ellen	Carraig Fadda Point, west entrance of harbor.	55 37 10	6 12 40	1	White	F.	.....	12
444	Mull of Cantyre.	Southwest headland of Cantyre.	55 18 39	5 48 0	1	White	F.....	.....	24
445	Sanda	Ship rock.....	55 16 30	5 34 55	1	White	Occ...	*See* remarks.	18
446	Davar	Northeast part of island.	55 25 45	5 32 16	1	White	Rev ..	Half minute.	17
447	Cambellton...	Old pier head...	55 25 30	5 35 30	1	Red.....	F.....	.....	2
448		New pier head..	.....	.....	1	Green	F.....	.....	.....
449		Dalintober pier	.....	.....	1	White	F.....	.....	.....
450	Ardrishaig	Pier head.....	56 0 45	5 26 30	1	White	F.....	.....	4
450a	Inverary	Pier head	56 13 30	5 5 0	2	Red	.....	.....	.....
		Pier.....	.....	.....	3	White	.....	.....	.....
451	Pladda.....	Island off southeast point of Arran Island.	55 26 0	5 7 9	2	White.....	F.....	.....	17
						North and south, 8 yards apart.	.....	.....	14
452	Lamlash.....	Southwest extreme of Holy Island.	55 31 0	5 4 0	2	Green over red	F.....	.....	12
453		Lamlash pier end	.....	.....	1	Red.....	F.....	.....	.....

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
434	White	38	42	1860	D. 4th Ord	*Red* eastward, between SW. by W. ½ W. and NE. by E.; and *white* westward where visible.
435	Post	14	.....	1858	Gas	
436	White	42	42	1860	D. 4th Ord	*Red* when seen from northward, or in the direction of Bogha Nuadh rock, between S. by W. ½ W. and SSW. ½ W.; *white* landward between SSW. ½ W. and NNE. ½ E. and marked seaward between NNE. ½ E. and S. by W. ½ W. Approaching from the southward a faint light will be seen, varying with the state of atmosphere, for some distance easterly of NNE. ½ E.
437	Tower	25	.....	1851	Oil	*Red* light visible seaward from Crinan Inn to Rudha na Moine.
438	White brick and granite.	73	83	1865	C.D.2d Ord.	
439	White	147	113	1859	D. 2d Ord	*Red* from about SSW. ½ W. to about E. by S *White* in all other directions.
440	White	128	42	1861	D. 3d Ord	*White* up the sound, from eastern shore of island of Islay, till it bears about S. ½ W.; *red* towards the island of Jura, from S. ½ W. till it bears about W. ½ S., and *white* from W. ½ S. through north and as far westward as it can be seen, or until obscured by the south side of Islay.
441	White	150	96	1825	C. 1st Ord	
442	White brick	50	.....	1869	D. 4th Ord	*White* from about NE. by E. to N. by E. ½ E. *Red* from about N. by E. ½ E. to W. ½ N., then *white* to SW. by W. ½ W.
443	Square tower	48	.....	1853	.....	
444	White	297	38	1787	D. 1st Ord	Visible from N. by E. ½ E., through east, to SSW. ½ W. Fog siren, during thick or foggy weather, will give two blasts in quick succession every four minutes—the first blast a high note, and the second a low note.
445	Stone	165	48	1850 1881	D. 1st Ord	Visible about 8 seconds, eclipsed about 16 seconds. Not visible to vessels when north of bearing NW. by W. ½ W. Kept in sight will clear Patterson rock. A fog siren is sounded, for about seven seconds, once in each minute.
446	Stone, white	120	65	1854	C. 2d Ord	
447	Lamp post	18	15	.....	Gas	
448	Lamp post	.....	.....	.....	Gas	
449	Lamp post	15	.....	.....	Gas	
450	Tower	27	19	1850	Gas	
450a	Lamp posts	14 14	.....	.....	Gas Gas	
451	Stone	130	95	1790	C. 1st Ord	Visible from SE. by E. to SW. by W. When north of the bearing W. ½ S. one light only is seen. During thick or foggy weather a fog horn will be sounded for five seconds, with an interval of ten seconds.
.....	.....	77	43	.....	C. 1st Ord.	
452	White	46	56	1887 1886	D	Visible from NW. ½ W., through east, to S. by E. Seaward the light is obscured by Arran Island when bearing NE. by N.
453	Pillar	33	.....	.....	Oil	From 1st August to end of April.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
454*	Firth of Clyde. Cumbrae ...	West side of Little Cumbrae Island.	55 43 16	4 58 0	1 White	F.....	.....	19
455	Millport	End of pier.....	.....	.....	1 Red.....	F.....	.....	....
456	Craigmore..	End of pier, Bogany Point, Bute Island.	55 51 0	5 2 0	1 White	Fl	.....	....
456a	Rothesay ...	On north quay..	.....	.....	2 Red at east end, green at west end.	F.....	.....	....
456b	Kyles of Bute.	Loisgt Island...	55 55 50	5 10 25	1 White	F.....	.....	....
457*	Toward.....	On the point....	55 51 45	4 59 17	1 White	Fl	Ten seconds.	14
458*	Gantock	On beacon	55 56 30	4 55 0	2 Red, vertical..	F.....	.....	....
459*	Cloch.....	On the point....	55 56 35	4 52 39	1 White	F.....	.....	14
460*	Gourock Bay.	Kempock Point, end of Gourock railway pier.	.....	.....	2 Green, vertical	F.....	.....	....
461*	Gourock Bay.	Fort Matilda, end of pier.	.....	.....	2 Red and green, vertical.	F.....	.....	....
462	.....	....	.....	.....	... .	.....	.....	....
463	.....	.....	.....	.....	.....	.....	.....	....
464	Helensburgh.	Pier head.....	.....	.....	1 Red.....	F.....	.....	....
465	Helensburgh.	Inner end of pier	.....	.....	1 Green	F.....	.....	....
466	Craigendoran.	Ends of north and south arms of piers.	.....	.....	2 Green, red	F.....	.....	....
467	Greenock.	About quarter of a mile northwest of Princess pier.	55 57 0	4 45 0	2 Red. NE. ¼ N. and SW. ¼ S., 34 yards apart.	F.....	.....	....
468	Greenock.	West end Princess pier.	.....	.....	3 One green above two white.	F.....	.....	....
469	Greenock.	Quay in front of custom-house.	.....	.....	1 White	F.....	.....	....
470	Greenock.	Garvel graving dock.	.....	.....	1 Red, with white sector.	F.....	.....	....
471*	Garvel Point	Light vessel in 12 feet off point.	.....	.....	1 White	Occ...	Eight seconds	....
472	Garvel Embankment.	West end of embankment.	.....	.....	1 White, vertical, 6 feet apart.	F.....	.....	....
473	Garvel Embankment.	East end of embankment.	.....	.....	1 Red, vertical, 6 feet apart.	F.....	.....	....
474*	Port Glasgow.	Beacon off the entrance.	55 56 15	4 14 0	1 White	F.....	.....	....
475*	Port Glasgow.	On north corner of steamboat quay.	.....	.....	1 White	F.....	.....	....
476†	Cardross North Perch.	Pillar bank, N. side of channel.	.....	.....	1 White	Fl	Five seconds.	4

* Light under the Clyde light-houses trustees.

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
454	White	115	36	1757	D. 2d Ord.	A fog trumpet gives blasts of five seconds duration, with intervals of 18 to 20 seconds.
455	Post	12	.....	.....	Gas	During eight months of season.
456	Pillar	18	.....	1878	Gas	The period of the light is about eleven seconds, consisting of five seconds of light, followed by three flashes of half a second each, separated by eclipses of 1½, ½, 1½, ½ seconds.
456a	Posts	20	.....	.....	Gas	
456b	Beacon, with tank.	.....	.....	1888	D. Oil	
457	White	70	63	1812	C. D	Fog bell, in thick or foggy weather, sounded 3 times in quick succession every 15 seconds.
458	Beacon, with tank, white.	42 36	48	1886	D. Oil gas.	
459	White	76	76	1797	C	A fog signal is sounded in foggy weather, which gives four blasts at equal intervals every half minute. Two steam whistles of differently pitched notes are employed in giving the blasts. That first sounded produces the lower note.
460	.....	18 24	.....	.....	.....	A bell is struck every six seconds in foggy weather. It is to be sounded at western end of pier.
461	Post	15 21	.....	.....	.....	Lower *red*, upper *green*. Two bells of different tones are struck, the one immediately after the other, every eight seconds, the lower toned bell being sounded first.
462	.....	.....	.....	.....	.....	
463	.....	.....	.....	.....	.....	
464	Post	19	.....	.....	Gas	
465	Post	19	.....	.....	Gas	
466	Post	20	.....	.....	Gas	*Green* on south pier, *red* on north pier. Shown only when steamers are expected.
467	Pillar post	40	30	1834 1886	Gas	These *red* lights in line, bearing SW. ½ S., lead towards anchorage ground.
468	Lamp post	23	.....	.....	Gas	To show end of pier.
469	Iron pillar	40	20	1829	Gas	
470	Post	.....	.....	.....	Gas	A *white* beam is shown up the river, to the eastward.
471	.....	.....	.....	1880	.....	Light for four seconds, with two short eclipses in the next four seconds.
472	Post	24	.....	.....	Oil	
473	Post	24	.....	.....	Oil	
474	Red iron tower	40	12	1861	D. 4th Ord. oil gas.	Also a *red* light on either side of each of the two entrances.
475	Lamp on iron pillar.	60	.....	.....	Oil gas	
476	Black base with white top.	22	34	1849	D. 4th Ord.	

No.	Name of light.	Position.	Latitude. North. ° ′ ″	Longitude. West. ° ′ ″	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
477*	Firth of Clyde—Continued. Garmoyle ..	Light-vessel, S. side of channel.	.....	.....	1	White	F	.....	....
478*	Dumbarton Rock.	End of pier	.....	.....	1	Red	F	.....	....
479*	Dumbuck ..	South side of channel.	.....	.....	1	White	F	.....	....
479a	Longhaugh Point.	....do	.....	.....	1	White	F	.....	....
480*	Bowling Bay.	Pier head, north side of channel.	.....	.....	1	White	F	.....	....
481*	Donalds Quay.	Outer end of quay, N. side of channel.	.....	.....	1	Red and white	F	.....	....
482*	Rashielee Park.	South bank of river.	.....	.....	1	White	F	.....	....
483*	Dalmuir	North bank of river.	.....	.....	1	Red	F	.....	....
484	Ardrossan	Extremity of breakwater.	55 38 27	4 49 28	1	White	Fl	Visible two seconds, eclipsed two seconds.	10
485	Irvine Harbor ..	.....	55 36 0	4 41 0	2	Red. Green ..	F	.....	....
486	Troon Harbor.	Inner end of pier	55 32 55	4 41 0	1	White	Int ...	Visible 40 seconds, eclipsed 20 seconds.	9
487		At pier head	.....	.....	1	Red	F	.....	6
488	Ayr Harbor ...	North side of the harbor.	55 28 10	4 38 10	1	White	F	.....	10
489		Near dock entrance, north side of harbor.	.....	.....	1	Red	F	.....	....
490		Outer end of south pier.	.....	.....	1	White and red	F	.....	....
491	Girvan Harbor .	South pier head.	.....	.....	1	Red	F	.....	....
492	Ailsa Craig	Spit on east side of island.	55 15 10	5 6 15	1	White	Group fl.	Visible 15 seconds, eclipsed about 15 seconds.	13
493	Turnburry	On point, at old castle in ruins.	55 19 30	4 50 20	1	White	Fl	Twelve seconds.	15
494	Loch Ryan	Cairn Ryan point.	54 58 35	5 2 0	1	White	F	.....	12

* Clyde navigation trustees.

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
477	Tower on vessel, white.	24	.....	1868	D. 5th Ord.	
478	.....	.....	.....	1875	.....	Lighted only in winter months for steamers calling.
479	Black base, red and white above.	32	45	1868	D. 5th Ord.	
479a	Red beacon	27	.....	1885	Oil gas.....	
480	Lamp post.....	20	.....	1849	Gas.....	
481	Black base, white iron tower above.	24	16	1859	Oil gas.....	*Red* and *white* alternate panes in the lantern. Shows *white* when abreast the light.
482	Black base, white iron tower above.	22	.....	1869	Oil gas.....	
483	Black base, white iron tower above.	21	.....	1869	Oil gas.....	
484	White	25	23	1840 1856	Gas.....	Four *red* lights are temporarily shown from coffer-dams during construction of works.
485	Tower on wall. Poles.	29 33	.....	.....	Gas	Leading lights: Inner *red*, outer, *green*, in line E. by N. ¼ N., visible from N. E. by N. to SE. ¼ E.
486	White	37	25	1827	Gas	
487	.....	35	25	1848	Gas.....	A *red* light will shortly be shown on end of new north breakwater.
488	Tower, white stone	58	.....	1790	D. 6th Ord.	Leading lights.
489	Iron tower, red....	33	.....	.....	....	
490	Iron tower, white.	24	.....	1877	.....	*Red* light southward of E. ¼ S., *white* northward of E. ¼ S.
491	Tower	25	.....	.....	Paraffin	
492	White, brick.....	60	35	1886	D.....	Shows a number of flashes in quick succession during the period of 15 seconds, followed by a period of darkness of about 15 seconds; visible between NE. by E., through west, and S. by E. A siren at the south end of the island is sounded during foggy weather, giving three blasts in quick succession every three minutes, the first blast a high note, the second a low note, and the third a high note. A siren on the north end of the island gives one blast of five seconds duration every three minutes. The two signals (north and south) are so arranged as to begin to sound about one and a half minutes after each other, and never sound together.
493	White, brick.....	96	64	1873	C. D. 2d Ord.	
494	White	46	50	1847	D. 4th Ord..	

SCOTLAND—WEST

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″					
495	Stranraer	East pier	54 54 40	5 1 40	1	White	F		9
496		West pier			1	Red	F		3
497		Inner end			1	Green	F		
498	Corsewall	On the point, west side of entrance to loch Ryan.	55 0 29	5 9 28	1	White and red alternately.	Rev	One minute.	16
499	Port Patrick	At southeast angle of harbor.	54 50 20	5 7 2	1	White	F		8
500	Mull of Galloway.	Southeast extreme.	54 38 10	4 51 20	1	White	Int	Visible half a minute, eclips'd 15 seconds.	25
501	Little Ross	On island	54 46 0	4 5 0	1	White	Fl	Five seconds.	18
502	Kircudbright	East pier			1	Red	F		
503	Barnkirk or Annan Foot.	Southwest side, Annan River entrance.	54 57 40	3 16 0	1	White	F		

ENGLAND—

540	Skinburness or Cote.	Northeast of Silloth.	54 52 30	3 23 0	1	Red	F		9
541	Lee Scar	On rocks southwest of Silloth.	54 52 0	3 25 0	1	White	F		10
542	Silloth	Extremity of wooden pier.			1	Yellow or green.	F		
543	Solway	Light-vessel in 5 fathoms, Robin Rigg channel.	54 48 0	3 32 0	1	Red	F		6
544		Extremity of south wooden pier.	54 43 6	3 30 30	1	White	F		6
545		End of north pier.			1	Red	F		
546	Maryport	Inner end of south pier.			1	White	F		12
547		Jetty, south side			1	Green	F		3
548		North tongue			1	Red	F		2
549	Workington	Head of breakwater extending from John pier.	54 39 0	3 35 0	1	White	F		
550	Harrington	Stone pier head.	54 36 40	3 34 0	1	White	F		11

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
495						
496						
497						Shown when the steamer from Ireland is expected.
498	White	112	110	1817	C	The light is shut in by Laggon head on a NE. ¼ E. bearing and by Miller point on a W. ¼ N. bearing. Siren fog signal in course of erection.
499	White, brick	89	82	1790	D. 6th Ord.	
500	Stone	325	86	1830	D. 1st Ord.	Visible from SE. ¼ E. through east and north, to SSW.
501	White	175	65	1843	D. 2nd Ord.	Obscured inshore between S. by W. and SE. by E.
502	Shed	12			Gas	
503				1841		Shown from half flood to half ebb. A bell is sounded during fogs.

WEST COAST.

540	White	40	32	1841		
541	On piles	25	45	1841		A bell is sounded in foggy weather.
542	White	33	26	1858	Gas	The *yellow* light is changed to green when there is 12 feet on dock sill. A red ball by day close to the light-house indicates the same. Two *red* lights in line lead through the center of the dock entrance.
543	Black	25		1841		*Solway* on sides. A black ball is hoisted at the fore by day, and a bell sounded during fogs.
544	White	30	22	1796	Gas	
545				1884		
546	White	52	42	1834	D. Gas	Shown while 8 feet water in harbor. A red ball by day during the same interval of tide. When there is an obstruction in the channel, a *red* light will be shown 12 feet below the white light, and an additional ball by day.
547	White	28	19	1857	Gas	
448	White	7	20	1857	Gas	While 8 feet water in entrance. The *green* light on the port hand.
549		42	28	1825	Gas	While 8 feet water in entrance. By day a red ball is hoisted at heel of John pier during the same interval of tide. During the night two leading *green* lights will be exhibited at tide time; the lower light is on the outer end of the timber jetty on the north side, and the upper light at the northwest end of Lonsdale dock, which lights may be seen as the harbor is approached; also a *red* light on Old pier on the south side of the river.
550	On iron pedestal	44	36	1797		While 8 feet in entrance. By day the red drum at inner end of pier indicates same depth.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″					
551	Whitehaven	West pier head.	54 33 0	3 36 0	1	White	Rev	Two minutes	11
552		North pier head.			1	Green	F		
553		Old quay			1	Red. SSE. ¾ E., 450 yards from the revolving light.	F		
554	St. Bees	On head	54 30 50	3 37 50	1	White	Occ	Half minute.	25

ISLE OF MAN.

555	Ayre Point	A quarter of a mile within the point.	54 24 56	4 22 1	1	White and red alternately.	Rev	One minute.	16
556	Peel	End of old pier	55 13 32	4 41 43	1	Red	F		3
557		Extremity of north breakwater.			1	White	F		5
558	Port Erin	On eastern shore.	54 5 20	4 45 25	2	Red, 43 yards apart.	F		5
559	Chicken Rock	On the rock	54 2 18	4 50 8	1	White	Rev	Half minute.	16
560	Port of St. Mary.	Pier head	54 4 27	4 44 0	1	White	F		9
561		Hill on west side of port.			1	Red	F		
562		End of breakwater at Port St. Mary point.			1	Green	F		3
563	Castletown Harbor.	New pier head	54 4 20	4 38 50	1	Red	F		8
564	Langness	Southeastern part of point.	54 3 20	4 37 22	1	White	Fl	Five seconds	14
565	Derby Haven	Southwest end of breakwater.			1	White	F		2
566	Douglas Bay	Douglas head	54 8 35	4 27 52	1	White	F		14
567		Battery pier			1	Red	F		6
568		Inner pier			1	White	F		6
569		End of Victoria pier.			1	Green	F		3
570		Iron promenade pier, outer end.			1	Blue	F		2
571	Ramsey	South pier head.	54 19 24	4 22 20	1	Red	F		4
572		North pier head.			1	Green	F		9
573		Iron pier			2	Red, vertical	F		
574	Bahama Bank	Light-vessel, in 11 fathoms, 1½ miles southeast of SE. tail of the bank.	54 19 40	4 12 55	1	White	Fl	Half minute.	11

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
551	White	52	47	1821		Fog whistle gives blast of 5 seconds every half minute.
552	White	52	.....	.....	.....	
553	.....	.....	.....	.....	.....	Half flood to half ebb. A red flag by day indicates the same depth.
554	Circular, white	336	55	1718 1866	D. 1st Ord.	Light 24 seconds, eclipse 2 seconds; light 2 seconds, eclipse 2 seconds. Masked from bearing of North to the land, or one-third of a mile outside Selker rocks.

ISLE OF MAN.

555	Stone, white. *Two red bands proposed.*	106	99	1818	C	Siren fog signal in course of erection; also an auxiliary light on extreme point.
556	Tower	27	.....	1811	Oil	
557	Tower	37	.....	1865	Oil	
558	.....	52 33	.....	1884	Oil	Leading lights, in line lead to anchorage.
559	Light granite	122	143	1875	D. 1st Ord.	A bell is sounded during foggy weather at intervals of half a minute. Explosive signal now being erected; charge to be exploded every 10 minutes.
560	Octagonal, white.	25	18	1812	Oil	Leading lights.
561	Pillar	35	.....	1879	Oil	
562	Mast	25	.....	1884	Oil	Temporary light.
563	Gray stone	22	.....	1765	Oil	
564	Circular, stone, dark gray.	76	63	1880	.....	Fog siren sounded for 5 seconds, with intervals of 40 seconds.
565	Tower	.....	12	.....	Paraffin	
566	White	104	65	1832	.....	Obscured inshore of a NE. ¼ E. bearing.
567	Tower	40	.....	1872	Oil	
568	Tower	35	.....	.....	Oil	While 9 feet on the bar.
569	Lamp post	25	.....	1868	Gas	Temporary light.
570	.....	20	.....	1869	D. oil	
571	Iron tower	34	27	1845	Oil	
572	Iron tower	34	.....	1868	Oil	
573	Mast	35 25	.....	1882	Oil	
574	Red, one mast with ball.	38	.....	1848 1879	C	Shows two flashes in quick succession every half minute, fog siren giving in thick or foggy weather two blasts in quick succession every two minutes. *Bahama Bank* on sides. *See* regulations on page 3.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North.	West.				
575	Selker Rocks....	Light vessel in 10½ fathoms, W.¼ N. 3 miles from Selker point.	54 16 5	3 30 0	1 White and red	Fl	Half minute.	11
576	Walney.....	South-east point Walney island.	54 2 56	3 10 32	1 White	Rev ..	One minute.	13
		Hawse point....			1 Red. About E. by S., 450 yards from the white light.	F.....	.....	....
577	Piel Harbor.	Nos. 1. 2. On south-east side of Foulney.	.....	.....	2 White	F.....	.....	....
578		3. 4. Near Rampside.	.....	.....	2 White	F.....	.....	....
579		5. 6. West side of channel, opposite dockyard.	.....	.....	2 White	F.....	.....	....
580		Piel pier.....	.....	.....	1 Red	F.....	.....	....
581		East side of Barrow channel.	.....	.....	1 White	F.....	.....	....
582	Morecambe Bay.	Light vessel, in 12 fathoms.	53 54 0	3 31 0	1 Red	Rev ..	Half minute.	11
533	Poulton.....	Extremity of stone or western pier.	54 4 20	2 52 30	1 White	F.....	.....	8
584		Yeoman and Clark wharf.	54 1 40	2 59 50	1 Red.....	F.....	.....	5
585	Lune River	Cockersand promontory, and Plover Scar Rock.	53 58 55	2 52 5 Inner.	2 White. E. by S. ½ S. and W. by N. ½ N., 834 yards apart.	F.....	.....	....
586		Glasson dock ...	54 0 0	2 50 50	1 White	F.....	.....	....
587	Wyre River.	North-east elbow of North wharf bank.	53 57 14	3 1 46	White	F.....	.....	10
588	Fleetwood..	High light in town; low light on esplanade.	53 55 36	3 0 20	White. N. ¼ W. and S. ¼ E., 283 yards apart.	F.....	.....	12 9
589	Blackpool.....	North pier.....	53 49 12	3 3 40	1 Green	F.....	.....	....
		South pier.....	.....	.....	1 Red.....	F.....	.....	....

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
575	Diamond at mast head.	38	.....	1883	.....	*Seiker* on sides. One *white* and one *red* flash in quick succession every half minute. Going in thick or foggy weather. *See* regulations on page 3.
	Stone.....	70	60	1790	.....	
576						
	Mast	.....	.....	.....	.....	Visible between East, through north, and S. W.
577	Front lights on piles.	.....	.....	1883	.....	Leading lights into and up the harbor.
578	Rear lights on brick columns.	.....	.....	.....	.....	
579		.....	.....	.....	.....	
580		.....	.....	.....	.....	*Red*, excepting in a S. S. E. direction and to the north-westward, on which lines narrow sections of bright light indicate aproximately the center of the channel. A dredger constantly employed on Piel bar will show, in addition to the ordinary anchor light, two lights vertical, 6 feet apart on one side, to indicate the side on which vessels must pass, and one light at the same height on the other side.
581	On piles	26	.....	.....	.....	Visible from N. W. by W., through north, to S. ¼ W.
582	Red ball at mast head.	38	.....	1863	C.	*Morecambe Bay* on sides. A fog siren is sounded in thick or foggy weather, giving three blasts in quick succession every two minutes, viz, two low notes and a high note. *See* regulations on page 3.
583	Stone, white	48	50	1851	D.....	Also two *red* lights, one about 130 yards from the end of the stone pier, and the other nearly a cable from the end of the wooden jetty. At the outer end of the promenade pier a light is also exhibited, which shows *blue* seaward and *red* towards the harbor.
584	One mast, with ball	30	.....	1854	.....	A ball by day on flag-staff, and a *white* light by night at the bows is shown when 8 feet water is in channel up to harbor. A bell sounded in foggy weather or snow every 20 seconds.
585	Wood.....	54	.....	1847	.....	While 8 feet. Visible between N. E. and S. ¼ E.
	Stone.....	20				
586	.....	.....	.....	.....	.....	Tide light.
587	Red, on piles.....	30	.....	1840	.....	A bell is sounded in foggy weather or snow, three strokes per minute, with an interval of one minute.
588	Upper, stone color, red lantern; lower, stone color.	90 30	.....	1841	.....	While 9 feet in the channel.
589	.....	.....	.....	.....	.....	

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″					
590	St. Annes-on-Sea.	Ends of pier	.....	.....	2	Red.....	F	.....	....
591	Stanner Point.	North side of entrance.	53 44 38	3 1 17		White	Int ...	Bright for 2½ min., eclipsed half a minute.	12
592	Lytham.....	New pier at extremity.	53 44 0	2 57 35	1	White	F	.....	....
593	Southport...	Pier head.....	53 39 20	3 1 20	1	White	F	.....	....
594	N.W. Light-vessel.	In 13 fathoms, with Bidston and Leasowe lighthouses in line S.E. ¼ E. Bar light E. by S. ¼ S. 8 miles.	53 30 20	3 31 30	1	White	Rev...	Half minute.	11
595	Bar light-vessel.	In 45 feet. Formby light-vessel E. S. E. 3½ miles.	53 31 32	3 17 25	1	White	Triple Fl.	Half minute.	10
596	Formby light-vessel.	Crosby light-vessel S. E. by E. nearly 2½ miles.	.....	.....	1	Red.....	Rev...	Half minute.	8
597	Crosby	Light-vessel, in 30 feet, Crosby channel.	.....	....	1	White	Fl	Ten seconds	8
598		North of Crosby point.	53 31 25	3 3 27	1	White	F	.....	12
599	Dee River .	Light-vessel in 8 fathoms, at river entrance.	53 22 3	3 18 6	1	White	Fl ...	Ten seconds	10
599a		Connah quay ...	53 13 0	3 1 30	3	Red.....	F	.....	....
600	Hoylake....	Near church....	53 23 40	3 10 42	1	White	F	.....	11
601	Dove Point .	Beacons	.....	.....	2	Red, S. E. ¼ S., 420 yards apart.	F	.....	....
602	Leasowe....	On shore, midway between Mersey and Dee rivers.	53 24 49	3 7 27	1	White	F	.....	15
603	Bidston.....	Bidston hill.....	53 24 0	3 4 27	1	White.....	F	.....	23
604	Rock	Point, west side of entrance of Mersey.	53 26 38	3 2 27	1	White.....	Rev...	Half minute.	....

Ribble River.

Liverpool Bay, Mersey and Dee Rivers, entrances.

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
590	.....	.....	.....	1885	.....	
591	Stone.....	81	.....	1866	D. 4th Ord.	
592	White	.....	.....	.....	.....	Shown from about 2 hours before to 1½ hours after H. W. Worked by clock-work, so as to cause the light to go out when the tide will not allow vessels to get up to the port.
593	.....	.....	.....	.....	.....	
594	Black, with white streak, two masts, black ball on foremast.	38	.....	1814 1863	C.....	*Northwest Light Ship* on sides. Fog horn giving four blasts of two seconds each, within a period of 15 seconds, followed by 45 seconds silence. Should the horn be disabled or not ready for use a bell will be sounded.
595	Red, two masts, red ball on foremast.	30	.....	1887	.....	*Bar* on sides. Flash 2 seconds, eclipse 2 seconds; flash 2 seconds, eclipse 2 seconds, flash 2 seconds, eclipse 20 seconds. During fog a horn will sound three times a minute, and may be heard about three miles. If the horn is not ready a bell will be sounded.
596	Black, two masts, black ball on foremast.	30	.....	1834 1873	C.....	*Formby* on sides. Fog horn giving four blasts of two seconds each, within a period of 15 seconds, followed by 45 seconds silence. Should the horn be disabled or not ready for use a bell will be sounded.
597	Red, two masts, red ball on foremast.	29	.....	1840 1887	C.....	*Crosby* on sides. During fog a horn will sound three times a minute. If the horn is not ready for use a bell will be sounded.
598	Square, white.....	95	74	1856	C.....	Visible between E. ¼ N. and S.S.E. ¼ E.
599	Red ball at masthead.	30	.....	1883	C.....	*River Dee* on sides. Gong in thick or foggy weather. *See* regulations on page 3.
599a	.....	.....	.....	1887	.....	On railway bridge (constructing). One light on staging south side, two lights on staging north side.
600	White.....	31	42	1863	D. 4th Ord.	Light opens, coming from westward, on a S. ¼ E. bearing.
601	.....	30 60	.....	1886	5th Ord.	
602	White.....	94	110	1763	.....	Masked when bearing southward of S. S. E.
603	Stone.....	225	68	1771 1873	D. 1st Ord.	Masked when bearing southward of S. S. E. ¼ E.
604	White.....	77	94	1839 1877	C.....	A fixed *white* light is shown beneath the revolving light, towards Rock Channel and eastwards towards the river, while there is a depth of 11 feet through Rock Gut. A black ball indicates the same by day. A bell is sounded during foggy weather.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
605	Liverpool Bay, etc.—Cont'd. North docks wall.	.....	.....	.....	1 White and red.	F	.....	.....
606	Birkenhead.	New ferry pier.	.....	.....	1 White.....	F	.....	.....
607	Runcorn....	Bridgewater and Old quay docks.	.....	.....	1	F	.....	.....
608	Woodside Ferry.	.....	.....	.....	1	F	.....	.....
609	Herculaneum dock wall.	Southwest corner.	.....	.....	1 White, red....	F	.....	.....
610	Rhyl Pier.....	.....	53 19 40	3 29 35	1 White.....	F	.....	.....
611	Llandudno.....	Extreme of pier.	53 20 8	3 49 24	1 Green	F	.....	.....
612	Great Orme Head.	North point, steep cliff.	53 20 35	3 52 0	1 White and red sectors.	F	.....	24
613	Menai	Trwyn-Du point.	53 18 50	4 2 20	1 Red	F	.....	13
614	Beaumaris.....	Pier	53 15 45	4 5 25	1 Red	F	.....	.....
615	Penrhyn.....	East pier head..	.....	.....	1 Green	F	.....	.....
616		West pier head .	.....	.....	1 Red	F	.....	.....
617	Lynus.....	On the point....	53 25 0	4 17 15	1 White.....	Occ ...	Visible 8 seconds; obscured 2 seconds.	16
618	Amlwch port...	North pier.....	53 25 0	4 20 0	1 White.....	F	.....	9
619	Skerries	Highest island..	53 25 15	4 36 20	1 White. Red sector in same tower.	Int. F.	One minute.	16 13
620		Outer end of breakwater of refuge harbor.	.....	.....	1 Red.....	Fl	Seven and a half seconds	14
621	Holyhead.....	End of wooden jetty, old harbor.	.....	.....	1 White	F	.....	.....
622		Old pier head...	53 18 34	4 37 1	1 Red.....	F	.....	.....

COAST—Continued.

No.	Color or any peculiarity of lighthouse or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
605	.....	70	.....	1877	D. 1st Ord.	*White* between N. by E., through east, to S. by E. ¾ E.; *red* when bearing southward of S. by E. ¾ E. In clear weather intensity diminished when bearing northward of E. by N.
606	.....	.....	.....	.....	D. 6th Ord.	
607	.....	.....	.....	1883	.....	*White* light denotes a clear road; *green*, vessels must move slowly; *red*, no entrance, road occupied, or gates are closed.
608	.....	.....	.....	.....	D. 6th Ord.	
609	.....	.....	.....	1887	Gas.....	Changes from *white* to *red* on a SE. by S. bearing, indicating the eastern margin of the channel leading to the Upper Mersey.
610	.....	.....	.....	.....	.....	
611	.....	.....	.....	1877	.....	A *red* light will be shown under the *green* when vessels can not go alongside the pier. A red flag by day for same purpose.
612	Square castellated, gray stone	325	.....	1862	D. 1st Ord.	*White* from ESE., through south, to W. ¼ S., and *red* from W. ¼ S. to W. ¼ N.
613	Circular, white, castellated. Black horizontal bands.	61	96	1837	D. 1st Ord.	In thick or foggy weather a bell is sounded three times in quick succession every 15 seconds.
614	.....	.....	.....	1865	.....	
615	.....	.....	.....	.....	.....	
616	.....	.....	.....	.....	.....	
617	White, castellated.	128	36	1835 1879	D. 1st Ord.	Masked so as to disappear when brought eastward of SE. ¼ E., marking the approach to the bearing of the Middle Mouse islet, and when in Red Wharf bay disappears if brought to the northward of N. by W. ¼ W., warning of the neighborhood of the Dulas rocks.
618	White	36	9	1817	.....	In strong westerly winds, when vessels can not enter, the light is not shown, and entrance of harbor is closed by balks of timber. Visible between SW. ¼ S. and W. ¼ S.
619	Circular, white...	117 67	75	1714	D. 1st Ord..	Light 50 seconds, eclipse 2 seconds; light 2 seconds, eclipse 2 seconds, light 2 seconds, eclipse 2 seconds. Masked between NNW. ¼ W. and NW. ¼ N., covering the east Platters (but the reflection of the light from the lantern will still be seen). The *red* light is shown from a window fifty feet below the lantern between W. ¼ N. and W. by S. ¼ S. over Ethel and Coal rocks. The former bearing leads 2 cables southward of the Coal, and the latter bearing 2 cables northward of the Ethel. A fog siren is sounded in thick or foggy weather, giving three blasts in quick succession every three minutes, in the following order: first, a high note; second, a high note; third, a low note.
620	.....	70	63	1873	D. 3d Ord..	The light, between the flashes, at the distance of 3 or 4 miles appears fixed. A bell is sounded during thick or foggy weather, three times in quick succession, at intervals of 15 seconds.
621	.....	20	.....	1864	D. 6th Ord .	Fog bell.
622	.....	20	.....	.....	.....	Visible between SW. ¼ S. and SSW. ¼ W., for clearing the Platters and all dangers on the east side of Holyhead Bay.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″				
623	Holyhead	Inner harbor, southern side.	.....	.....	1 Green	F	.....	....
624	Holyhead	Inner harbor, northern side, at end of Fish pier.	.....	.....	1 Red	F	.....	....
625	Stack	South Stack rock, off northwest point of Holyhead island.	53 18 30	4 42 0	1 White	Rev	One minute.	20
626	Stack	195 feet W. by S. from main light.	.....	.....	1 White	Rev	One minute.	....
627	Carnarvon Bay. Carnarvon Bay.	Light vessel in 30 fathoms, S. S. W. ¾ W. 12¾ miles from South Stack light-house.	53 5 40	4 44 30	1 Two white faces and one red face alternately.	Rev	Twenty seconds.	11
628	Carnarvon Bay. Llanddwyn Island.	Southwest end	53 8 10	4 25 0	1 Red	F	.....	5
629	Carnarvon Bay. Carnarvan	Pier head	.....	.....	1 Red	F	.....	....
630	Carnarvon Bay. Gwydir	Pier head	53 0 0	4 25 0	1 Red and white	F	.....	....
631	Bardsey	On island	52 45 0	4 47 50	1 White	Occ	Half minute.	17
632	St. Tudwall	West island	52 47 50	4 28 10	1 Red and white sectors.	Occ	Ten seconds.	18
					Red, in same tower.	F	.....	17
632a	Mynidd Buchan	N. side of Dovey river entrance.	52 33 15	4 3 45	1 White	Fl	Five seconds.	15
633	Aberystwith	Pier head	52 24 20	4 5 40	1 Red and white sectors.	F	.....	....

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
623	.....	10	.....	1866	.....	These two lights mark the entrance to the basins and quays.
624	.....	16	.....	1866	.....	
625	Circular, white...	197	91	1809	D. 1st Ord..	During thick or foggy weather a bell is sounded once every 15 seconds. During thick or foggy weather a gun or explosive charge is fired every 5 minutes from a station just inside North Stack.
627	.....	90	.....	.....	.....	Occasional light visible from N. 40° to S. 53° W. Exhibited in addition to the main light in thick or foggy weather only, but mariners are cautioned that when a fog is partial it may happen that both lights will be visible, when, if they do not show simultaneously, they will appear as one light exhibited at irregular intervals.
627	Red, small ball over large at mast head.	36	.....	1879	C	Shows every twenty seconds in the order of two *white* and one *red*. *Carnarvon Bay* on sides. A fog siren is sounded during thick or foggy weather, giving two blasts in quick succession every two minutes in the following order, first a low note, second a high note. *See* regulations on page 3.
628	.....	50	.....	1846	D. 5th Ord	Visible between S. E. ¼ S. and N. E. ¼ E.
629	.....	.....	.....	1858	.....	
630	.....	.....	.....	1879	.....	*Red* seaward, *white* westward of S. W.
631	Square white tower	129	99	1821 1885	D. 1st Ord .	Light 27 seconds, eclipse 3 seconds. A fog siren during thick or foggy weather will give three blasts in quick succession every five minutes, the first blast a high note, the second a low note, the third a high note.
632	Circular, white..	151 135	35	1877	D. 2nd Ord.	Light eight seconds, eclipse two seconds. *White* between S. by W., through south and east, to N. by E.; *red* from N. by E. to N. W.; *white* from N. W. to S. W. by W. ½ W., and *red* from S. W. by W. ½ W. to S. by W. This light is obscured by East island between S. W. ½ W. and W. by S. ½ S. The *red* light in same tower is shown over Carreg-y-Tra between W. by N. and W. ¼ S.
633a	.....	117	.....	1887	.....	Occasional light. Visible seaward from North to South. A *red* light and a *white* light are shown from the outer end of the pier at Aberdovey; also occasional *white* leading lights for crossing the bar, and which are shifted in position as needed.
633	.....	.....	.....	1864	.....	The light will appear *red* to vessels running up for the harbor from the southward and westward, to distinguish it from the town gas and bridge lights; but will appear *white* as usual to ships coming in from W. N. W. and N. N. E. directions. Two fixed *white* leading lights are exhibited in a field over the inner end of the pier, when there is a sufficient depth for vessels whose draught admit of taking the harbor. Also two *red* lights for guidance of fishermen, shown between 1st September and 30th November.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″				
634	Cardigan Bay...	Light-vessel, in 35 fathoms.	52 24 30	5 0 30	1 Red	Rev ..	Half minute.	11
635	New Quay.....	Pier head.....	52 13 0	4 21 10	1 White and red	F	.....	....
636	South Bishop ...	On rock	51 51 10	5 24 40	1 White	Rev ..	Twenty seconds.	18
637	Smalls	On rock	51 43 15	5 40 15	1 White, with red sector.	Int ...	One minute.	17
638	Milford Haven. St. Anns Head.	On the west side of entrance to Milford Haven.	51 41 0	5 10 30	2 White. N. N. W. 203 yards.	F	.....	20 18
639	Great Castle Head.	On the head	.....	.....	2 White. High light, N. E. by E. ½ E. from low light, 174 yards apart.	F	.....	16 14
640	Dockyard....	.....	.....	.....	2 Red	F	.....	3
641	Neyland Point.	Floating light, end of landing pier.	.....	.....	1 White	F	.....	....
642	Neyland	On point, and end of pier at Church Lake.			2 White. E. by N. ¼ N. 176 yards apart.	F	.....	....
643	Hazel Beach.	Southward of mill chimney.	.....	.....	2 White, N. W. by W. ½ W. 153 yards apart.	F	.....	....
644	Bristol Channel. Caldy Island	South part.....	51 37 52	4 40 59	1 White	Occ ...	Half minute.	20
645	Tenby.....	Pier-head.....	.....	.....	1 Red.....	F	.....	3
646	Saundersfoot.	South pier-head.	51 43 0	4 42 0	1 Red.....	F	.....	....
647	Burry Port	Near the head of west pier.	51 40 30	4 15 0	1 White	F.....	.....	9
648	Llanelly ..	South end of breakwater.	51 40 0	4 10 25	1 White	F.....	.....	7
649	Llanelly ..	Whiteford Point, south side of entrance.	.....	.....	1 White	F....	.....	9
650	Helwick	Light-vessel, in 16½ fathoms, west end of sand.	51 30 30	4 24 40	1 White	Rev ..	One minute.	11

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
634	Red, ball at mast head.	87	.....	1860	C	*Cardigan Bay* on sides. A gong will be sounded in thick or foggy weather. *See* regulations on page 8.
635	.....	31	.....	.....	.....	Shown from 15th September to 12th March. Southward of a W. ¼ S. bearing the light is *red*.
636	Circular, white ...	144	36	1839	D. 1st Ord .	During thick or foggy weather, a bell is sounded, giving a single stroke every 20 seconds. Every 15 minutes two explosive reports, each sounding like that of a gun, the interval between being five seconds.
637	Circular, red and white horizontal bands.	125	141	1778 1885	D. 1st Ord .	Light 54 seconds, eclipse 2 seconds, light 2 seconds, eclipse 2 seconds. The *red* sector covers the Hats and Barrels rocks between W. ¼ N. and N. W. ¼ W. During thick or foggy weather, an explosive signal gives one report every five minutes.
638	Circular. Octagonal. White.	192 159	75 42	1714	D. 1st Ord D. 1st Ord	In line clear Crow and Toes rocks, outside crow and inside Turbot bank. A *red* sector of light is shown from the high light-house, in direction of Chapel and Harbor rocks, between N. W. and west. A fog siren is sounded in thick or foggy weather, giving one blast every three minutes.
639	Square, white. Turret on dwelling.	112 76	42 17	1870	C	In line N. E. by E. ¼ E. lead in the best water between St. Anns Head and Mid-channel rock.
640	.....	46 23	50 23	1862	D. 6th Ord .	In line S. E. by E. ¼ E. High light visible between E. by S. ¼ S. and S. E. ¼ S. Low light visible between E. by S. ¼ S. and S. S. W.; a *green* sector marks Carr spit from S. ¼ E. to S. by E. ¼ E.
641	.....	.....	.....	1868	.....	
642	Huts, red and white stripes.	44 15	.....	1883	C. D. 6th Ord.	Leading lights. Shown only for guidance of Great Western Ry. Co.'s steam vessels.
643	Huts, red and white stripes.	91 44	.....	1883	C. D. 6th Ord.	
644	Circular, white ...	214	52	1829 1885	D, 1st Ord .	Light 27 seconds, eclipse 3 seconds. Shows *white* seaward, *red* in the direction of Old Castle Head, from S. 72° E. to S. 58° E., and *red* in the direction of Wool House Shoal, from S. 53° W. to S. 13° W.
645	.....	14	.....	1856	.....	Only at tide time, for steamers or fishing boats.
646	.....	15	.....	.....	.....	While 8 feet water within the entrance. A yellow ball by day.
647	White, black top..	35	18	.....	.....	While 10 feet water.
648	.....	36	50	1850	.....	Half flood until quarter ebb.
649	On piles	55	.....	1854	C	Half flood until half ebb.
650	Red, ball at mast-head.	36	.....	1846	C	*Helwick* on sides. A fog siren is sounded during thick or foggy weather, giving one blast of 5 seconds' duration every 2 minutes.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
	Bristol Channel—Continued.		North. ° ′ ″	West. ° ′ ″				
651	Mumbles ..	On outer islet...	51 33 59	3 58 12	1 White	F.....	.....	15
652	Swansea ..	West pier-head.	51 36 50	3 56 0	1 Red.....	F.....	.....	7
653		Inner part of west pier.	.....	.....	1 White	F.....	.....	....
654		East pier-head..	.....	.....	1 White.....	F.....	.....	....
655		South dock entrance.	.....	.....	2 Green or red, vertical.	F....	.....	....
656		North dock entrance.	.....	.....	2 Green or red, horizontal.	F.....	.....	...
657		New cut bridge.	.....	.....	1 Red or green..	F.....	.....	....
658	Briton Ferry	Eastern training wall.	.....	.....	3	.....	.....	....
659	Neath	End of training wall.	51 36 10	3 51 0	2 White, horizontal.	F.. ..	.....	....
660	Scarweather	Light-vessel in 14 fathoms, western edge.	51 26 53	3 55 54	1 White.....	Quick fl.	Five seconds.	11
661	Porthcawl Harbor.	Southeast end of breakwater.	.....	.....	1 Red, white and green sectors.	F.....	.....	11
662		Inner part of breakwater.	.....	.....	2 Red, horizontal, 15 feet apart.	F.....	.....	....
663	Nash	On the point....	51 24 0 High light.	3 33 0	2 White, S.E. by E. ½ E., 333 yards apart.	F.....	.....	19 17
664	Breaksea ...	Light-vessel in 16 fathoms, 2 miles NW. by W. ¾ W. from the One Fathom Bank buoy.	51 20 15	3 17 30	1 White	Rev ..	Fifteen seconds	11
665	Flatholm ...	On island, south point.	51 22 31	3 7 3	1 White, with red and white sectors.	Occ...	Half minute	18
666	Cardiff.....	Near docks	51 27 48	3 9 42	2 White ..... 2 Red, about 23 yards apart.	F..... F.....	....	....

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
651	Octagonal, white..	114	56	1798	D.....	
652	White, red top....	35	23	1803	.....	A black ball is shown when there is a depth of 16 feet at the piers, from 1st December to 1st April, and when 14 feet during rest of year. A bell in foggy weather.
653	.....	.....	.....	1878	.....	Visible from the eastward only.
654	.....	.....	.....	.....	Electric ...	Shown when there is a depth of 16 feet at the piers from 1st December to 1st April, and when there is 14 feet during rest of year.
655	Post	.....	.....	1859	.....	When the gates are open, two vertical *green* lights will be shown eastward of the half-tide basin, when the entrance is clear; and two vertical *red* lights when vessels are leaving or the entrance foul, when no vessel should run for the piers.
656	Post	.....	.....	1860	.....	When the gates are open two horizontal *green* lights will be shown from the Capstan Point, eastward of the half-tide basin, when the entrance is clear; and two horizontal *red* lights when vessels are leaving the docks or the entrance is foul.
657	Post	.....	.....	.....	.....	*Red* when bridge is closed, and *green* when open.
658	.....	.....	.....	.....	.....	Tidal lights.
659	.....	.....	.....	.....	.....	Tidal lights. Additional lights mark the channel to the docks.
660	Red, half globe over globe.	38	.....	1862 1888	C	*Scarweather* on sides. One flash every 5 seconds. A fog siren is sounded during thick and foggy weather, giving two blasts in quick succession every 2 minutes. *See* regulations on page 3.
661	.....	34	.....	1866	D, 5th Ord .	Shows *red* northward of E. by S. ¼ S. to SE. ¾ S., *white* from NE. by E. ¼ E. to E. by S. ¼ S., and *green* from NW. ¾ N. to NE. by E. ¼ E.
662	.....	37	.....	1866	.....	The *red* lights by night and black ball by day, when the gates are open for vessels.
663	Circular, white; high with black bands.	182 136	111 60	1832	C ..... C	In line, lead south of Nash sand. The high light shows *red* bearing westward of NW. ¼ W. (in the direction of Breaksea Light). A *red* sector is shown from a window below the high light between SE. ¼ S., and SE. by S. over Tuskar Rock. The low light is not seen when bearing westward of NNW. ¼ W.
664	Red, ball at mast head.	35	.....	1866	C	*Breaksea* on sides. During thick or foggy weather the fog signal will be two explosive reports, each sounding like the discharge of a gun, every ten minutes; the interval between the two reports will be five seconds.
665	Circular, white ...	164	99	1737 1881	D, 1st Ord..	Light 21 seconds, eclipse 3 seconds, light 3 seconds, eclipse 3 seconds. *Red* between SE. ¾ E. and S. by E. ¾ E.; *white* between S. by E. ¾ E. and S. ¼ E. (from Ranie Spit buoy to West Cardiff Buoy); and *red* between S. ¼ E. and SW. ¼ S.
666	.....	.....	.....	.....	.....	
.....	.....	.....	.....	1866	.....	

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″				
667	Bristol Channel—Continued. Cardiff.....	Bute dock, pier head.	.....	.....	1 White	F.....	.....	10
668	Usk	West side of river entrance.	51 32 0	2 59 0	1 w Red, hite, and green sectors.	F.....	.....	12
669	English and Welsh Grounds.	Light-vessel in 4¼ fathoms, south side channel.	51 26 30	2 58 15	1 White	Rev ..	One minute	11
670	Portskewet.	On pier-head....	.....	.....	1 Red.....	F.....	.....	....
671	New passage	Chirstone rock .	.....	.....	1 Red.....	F.....	.....	....
672	Avon.....	East side of entrance.	51 30 0	2 42 0	1 White, with red and green sectors.	Occ...	Half minute	14
673		Avon mouth....	.....	.....	1 Red.....	F.....	.....	....
674		Dumball Island and mainland.	.....	.....	2 Green.....	F.....	.....	....
675	Portisnead..	On pier	.....	.....	1 White.....	F.....	.....	....
676	Clevedon ...	Pier head	.....	.....	1 Red.....	F.....	.....	7
677	Burnham, within Bridgewater bar.	East side of entrance of Parret River	51 15 0	3 0 0	1 White. E by S. ½ S., 500 yards apart.	Occ...	One minute.	15
678			.....	.....	1 White and red.	F.....	.....	9
679	Watchet Harbor.	End of breakwater.	51 10 58	3 19 9	1 Red.....	F.....	.....	4
680	Minehead...	End of pier.....	51 12 45	3 28 20	1 Green.....	F.....	.....	4
681	Ilfracombe .	Lantern Hill, north side of harbor.	51 12 30	4 7 0	1 Red.....	F.....	.....	10
682	Bull Point..	On point.....	51 11 45	4 12 10	1 White.....	Fl	Half minute.	18
					1 Red, in same tower.	F.....	.....	17
683	Bideford...	Braunton Sands, north side of river.	51 4 0	4 12 30	2 White, S E., 311 yards apart.	F.....	.....	14 11

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
667	Octagonal, yellow.	42	.....	1870	D, 5th Ord..	
668	Circular, white ...	47	57	1821	D, 2d Ord ..	*White* from NE. by E. ½ E. to N. by E. ½ E. *Red* from N. by E. ½ E. to N. by W. ½ W. *White* between N. by W. ½ W. and NNW. ½ W., leading between the buoys at the entrance to the river. *Red* from NNW. ½ W. to the land. *Green* between the bearings of W. by S. ½ S. and SW. by W.
669	Red, ball at mast-head.	38	.....	1838	C	*English and Welsh Grounds* on sides. A gong is sounded during thick or foggy weather. *See* regulations on page 3.
670	.....	.....	.....	1868	.....	
671	.....	.....	.....	1868		
672	Octagonal, white..	73	85	1840 1881	D., 2d Ord., gas.	Light 27 seconds, eclipse 3 seconds *White* seaward. The *red* sector marks the anchorage. A strip of *green* light will be seen between east and E. by N. at the turn of the channel.
673	.....	18	.....	1880	.....	There is also a *red* light on the north side of the lock entrance, and a *blue* light on the south side.
674	Red and white huts.	45 15	.....	1880	.....	Leading lights, in line E. by S.
675	.....	.....	.....	.....		
676	.....	27	.....	1869		
677	White	91	99	1832 1884	C	Double occulting, viz: light 54 seconds, eclipse 2 seconds, light 2 seconds, eclipse 2 seconds. Obscured eastward of SSE. ½ E.
678	Square, with black streak vertically.	23	36	.....	.....	Shows *white* from ESE. to E. ½ S., and *red* from E. ½ S. to E. ½ S. Another sector of *red* is shown up the river between N. by E. and N. by E. ½ E. nearly.
679	Sexangular, white top, red middle, black base.	30	22	1862	C	From 8 feet on the flood to 10 feet on the ebb.
680	.....	19	.....	.....	.....	From 3 hours before high water to 2½ hours after.
681	White.....	127	29	.....	Gas.....	Shown from 1st September to 30th April.
682	Circular, white ...	154	55	1879	.....	The *white* light shows three successive flashes of about 2 seconds duration, divided by intervals of about 3 seconds, and followed by about 18 seconds eclipse. The *red* light marks the Morte stone, between E. by N. and SE. by E. ½ E. Fog siren during thick or foggy weather, giving three blasts in quick succession every 2 minutes.
.....	.....	136				
683	High octagonal, white.	93 44	86 15	1820	C	Leading lights for crossing bar. High light visible between N. 68° E. and S. 22° E. From S. 22° E. (over Baggy Leap and Asp Rocks) to S. 87° W. the light is obscured. Between S. 87° W., through north, and N. 68° E. a light of less power is apparent for harbor navigation. The low light, visible from east to SSE. ½ E., is exhibited from half flood to half ebb, or while 15 feet over bar. In daytime a red ball is hoisted to indicate the same depth.
						In July, 1889, the high light will be made occulting, with an eclipse of 2 seconds' duration every half minute.

ENGLAND—WEST

No.	Name of light.	Position.	Latitude. North. ° ′ ″	Longitude. West. ° ′ ″	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
684	Lundy (Bristol Channel.)	Half a mile from southern end of the island.	51 10 0	4 40 19	1	White	Rev...	Two minutes	31
					1	White in same tower.	F		28
685	Hartland Point.	On point	51 1 24	4 31 52	1	White and red.	Fl	Half minute.	17
686	Padstow	Quay head			1	Red and green.	F		
687	Trevose Head	Northwest extremity of the head.	50 33 0	5 1 55	1	White	Occ...	One minute.	20
688	Godrevy	On the island	50 14 30	5 24 0	1	White	Fl	Ten seconds	17
					1	Red in same tower.	F		
689	Hayle	Rising ground west side of entrance.	50 11 30	5 26 0	2	White. S. by W. ¾ W., 99 yards apart.	F		6
690		Outer end of Lelant quay.			1	Red	F		
691	St. Ives	185 feet from original extremity of pier, 75 feet within the present pier end (110 feet washed away).			1	Red	F		
692		End of inner pier	50 12 0	5 28 0	1	White	F		

IRELAND—

730	Fastnet	Summit of rock.	51 23 18	9 36 25	1	White	Rev ..	One minute.	18
731	Baltimore harbor.	West entrance point.	51 28 20	9 23 45	1	White	F		8
732		Pier head			1	White and red	F		
733	Galley head	Summit of head.	51 31 50	8 57 10	1	White	Group fl.	One minute.	19

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
684	Circular, white ...	540	96	1820	D, 1st Ord..	Low light is only visible between S. by E. and NE. During thick or foggy weather a rocket, which explodes on reaching a height of 600 feet, is discharged every 10 minutes from the west side of the island. *In July, 1889, the interval of revolution of the high light will be reduced to 1 minute.*
.....	.....	470	.....	.....	C	
685	Circular, white ...	120	59	1874	D, 1st Ord..	Shows a flash every half minute, in the order of two flashes *white* and one *red*. A fog siren, during thick or foggy weather, giving two blasts in quick succession every 2 minutes—the first blast a high note, the second a low note.
686	.....	.....	.....	1868	.....	
687	Circular, white...	204	87	1847 1882	D, 1st Ord..	The light is under occultation three times in quick succession every minute; that is to say, it suddenly disappears for 3 seconds, and then as suddenly reappears at full power for 3 seconds; again suddenly disappears for 3 seconds, reappears at full power for 3 seconds; again disappears for 3 seconds, and suddenly reappears at full power for the remainder of the minute.
688	Octagonal, stone..	120 93	86	1859	D. 1st Ord..	A bell is sounded during thick or foggy weather, one stroke every 5 seconds. The fixed *red* light below the flashing light is shown in the direction of the Stones, visible from S. by E. ½ E. to SE. ½ E.
689	Red, on tripod; low light-house black, on four legs.	81 50	 11	1840	.....	While 12 feet water.
690	.....	.....	.....	1876	.....	
691	.....	.....	.....	1831	.....	
692	.....	.....	.....	1882	.....	When 10 feet water at inner pier head. Shown from 1st September to 30th April.

SOUTH COAST.

730	Circular, white, in the middle a broad horizontal red belt.	148	92	1854	D. 1st Ord..	During thick or foggy weather, an explosive fog signal gives one report every five minutes. When a vessel is seen standing into danger, the signal J. D. of the commercial code will be hoisted and an explosive signal will be discharged and repeated until observed.
731	White	130	27	1885	D. 6th Ord..	Shows *red* towards the harbor.
732	.....	.....	.....	.....	.....	During thick or foggy weather, a fog bell is sounded once every 10 seconds. *Red* towards harbor entrance.
733	White	174	69	1878	D. 1st Ord., gas.	The light exhibits six or seven flashes, in quick succession, every minute; the duration of the group of flashes is about 16 seconds, followed by an interval of obscurity of 44 seconds.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	*West.* ° ′ ″				
734	Kinsale	South point of Old head.	51 36 11	8 31 58	1 White, with red sector.	F		21
735	Kinsale	Fort Charles, east side of harbor.	51 41 48	8 29 50	1 White	F		14
736	Daunt rock	Light-vessel, 1⅓ miles SE. ¼ S. of the rock in 16 fathoms.	51 43 0	8 16 0	1 Red	F		10
737	Cork harbor or Queenstown. Roche point.	East side of entrance.	51 47 33	8 15 14	1 White	Occ	Twenty seconds	10
	Cork harbor or Queenstown. Roche point.	Same tower.			1 White	F		8
738	Cork harbor or Queenstown. Spit bank	East elbow, off Queenstown, in 9 feet.	51 50 41	16 26	1 Red	F		5
739	Cork harbor or Queenstown. Lough Mahon.	Opposite Meelough spit, 100 feet from edge of the bank.	51 53 0	8 19 14	1 Red	F		2
740	Cork harbor or Queenstown. Dunkittle	North side of channel.			1 Green	F		2
741	Cork harbor or Queenstown. Black rock	On castle			1 White	F		3
742	Cork harbor or Queenstown. Dundanion	Kings quay	51 53 40	8 25 0	2 Red, 43 yards apart.	F		2
743	Cork harbor or Queenstown. Tivoli				2 Red	F		2
744	Poor head	Summit	51 47 10	8 10 25	..			
745	Ballycottin	Outer island	51 49 30	7 59 0	1 White	Fl	Ten seconds	18
746	Youghal	West side of entrance.	51 56 34	7 50 34	1 White 2 Red	F F		6
747	Mine head	South side of head.	51 59 33	7 35 8	1 White	Int	One minute.	21

Note.—During foggy weather, at all Irish gas stations extra powers

COAST —Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
734	White, with two red belts.	236	100	1683	D. 1st Ord..	A *red* sector of light is shown across the entrance of Courtmacsherry Bay, between a line drawn to the Seven heads and a line to the Horse rocks.
735	White	98	48	1804	C.....	The light is shown from a room in one of the fort buildings.
736	Black, with white stripe, three masts.	89	.....	1874	C	*Daunt rock* in white letters on sides The light is exhibited from main-mast. In foggy weather guns will be fired at alternate intervals of five and ten minutes.
737	White	98	49	1817	D. 2d Ord..	Light 15 seconds, eclipse 5 seconds. Shows *red* from N. 45° W., inshore to the land, to mark Pollock rock; also from S. ¼ W. inshore to the land, to mark Dognose rock.
....	.....	60	.....	1876	C	The fixed *white* light shown from the base of tower, 38 feet below the main-light, is only visible between NE. by E. and NE. ¼ N., to mark Daunt rock. A bell is sounded during thick or foggy weather twice every minute.
738	White on red screw piles, upper part gray.	32	.....	1848	D. 4th Ord..	Visible between NNE. ¼ E., through west to SE. by E. ¼ E. A sector of *white* light is shown over Bar rock, between SW. ¼ S. and SW. by W. ¼ W.
739	White, on piles...	25	.....	1859	D. 4th Ord..	A bell sounded in foggy weather.
740	White, on piles...	24	.....	.....	.....	
741	.....	74	.....	1863	Gas.....	
742	.....	.....	.....	.....	Gas.....	Leading lights from Black rock to Kings quay.
743	.....	.....	.....	1886	Gas.....	On bridge and shore, 43 yards apart.
744	.....	.....	.....	.....	Fog signal.	A trumpet is sounded, in thick or foggy weather, giving a blast of five seconds every two minutes.
745	Circular, stone, inclosed within white walls.	105	50	1850	D. 1st Ord.	Visible from W. ¼ S., through north, to E. ¼ S. A bell is sounded in foggy weather.
746	Circular, white ...	78	.....	1852	D. 3d Ord ..	A *red* light is exhibited from a window of Youghal light tower, two hours before high water till one and a half hours after high water; visible from NE. by N. to N. by E. ¼ E. or through an arc of 18 degrees. A ball will be hoisted during the same period by day. A sector of *red* light is also exhibited from a window in a small building at the east side of the foot of Youghal light tower, between NNW. ¼ W. and NW., from two hours before high water to one and a half hours after high water, to guide vessels through the east channel.
747	Stone color	285	68	1850	D. 1st Ord., gas.	Light 50 seconds, eclipse 10 seconds. Visible from E. by N. ¼ N., through north, to W. ¼ S.

are applied according to the density of the atmosphere.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″					
748	Dungarvan.....	Ballinacourty, north point of entrance.	52 4 27	7 33 5	1	White, red and green sectors.	F.....	.....	10
749	Waterford. Hook point.	East side of entrance.	52 7 25	6 55 53	1	White.....	F.....	.....	16
750	Dunmore...	Pier head, west side of entrance.	52 9 0	6 59 30	1	Red and white.	F.....	.....	5
751	Duncannon fort.	East side of channel.	52 13 18	6 56 0	2	White, vertical	F.....	.....	10
					1	Red and white tower.	F.....	.....	...
752	Black head.	Half a mile NNE. ¼ E. of Duncannon fort.	.....	.....	1	White.....	F.....	.....	16
753	Passage point.	Spit, off.....	.....	.....	1	Red	F.....	.....	...
754	Queens channel.	Eastern entrance	.....	.....	1	Green and red	F.....	.....	...
755		West end of channel on north shore.	.....	.....	1	White	F.....	.....	...
756	Cove.....	South side of river.	.....	.....	1	White, green, red.	F.....	.....	...
757	Saltees, or Coningbeg.	Light-vessel in 29 fathoms, off Coningbeg rock, southernmost of Saltee Islands.	52 2 25	6 40 0	1	White.....	Fl ...	One minute.	10
758	Barrels rock-..	Light-vessel in 27 fathoms, SSW. ½ W., 2½ miles from rock.	52 6 55	6 24 20	1	Red	Fl.....	Half minute.	10
759	Tuskar.....	On rock	52 12 9	6 12 35	1	White and red alternately.	Rev ..	One minute.	19

EAST COASTS—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus	Remarks.
748	Circular, white...	52	44	1858	D. 3d Ord .	*Green* in direction of rocks extending from Ballinacourty point, between W. ¼ S. and NW. by W. *Red* in direction of Carrickapane rock between NW. by N. and N. by W. In other directions *white*. The *white* leading lights are shown from near Wyse point; a *red* light at Dungarvan; and a *green* light from center of bridge.
749	White, three red belts, lantern red.	152	115	1791	D. 1st Ord., gas.	During foggy weather a gun will be fired every ten minutes. When vessels are seen standing into danger, the signal flags J. D. of the commercial code will be hoisted, and a gun will be fired and repeated till the signal is observed.
750	White.....	44	51	1826	C	*Red* seaward, but *white* northward of the pier.
751	White	53 43	25	1774	C	The two vertical lights are only seen from seaward. The third light shows *red* from S. ¾ E. (leading clear of Drumroe bank buoys) to SE. ¾ E.; and *white* from S. ¾ E. to the shore.
.....	.....	43	.....	1882	D.....	
752	White.....	128	35	1838	C	This light and No. 751 in line, bearing NNE. ¼ E., lead over the bar.
753	On piles, red with white top.	.....	.....	1867	.....	
754	Pillar.....	.....	.....	1878	.....	To lead through Queens channel. *Green* on north side of channel; *red* on south side.
755	.....	.....	.....	1880 1881	.....	*It is intended in place of this light, to erect leading lights above Gyles quay, at upper entrance to channel.*
756	.....	25	.....	1881	.....	*White* on south side of channel, *green* and *red* on north side. Entering, changes from *green* to *red* when abreast of it.
757	Black with white stripe, 3 masts, ball at main.	38	.....	1824 1878	C	Shows three flashes in quick succession every minute; the flashes occupy about 23 seconds and are followed by an eclipse of about 37 seconds. A fog siren, during thick and foggy weather, gives a blast of 2½ seconds duration, repeated after an interval of 25 seconds, and followed by 90 seconds of silence. *Coningbeg* on sides.
758	Black, with white stripe, three masts, black barrel at main-mast head.	.....	.....	1880 1885	.....	Shows two flashes in quick succession; the flashes occupy about 8 seconds, followed by 22 seconds darkness. *Barrels rock* on sides. Fog gong.
759	Circular, white...	108	113	1815 1885	D. 1st Ord.	During thick or foggy weather an explosive fog signal gives one report every 5 minutes. The fog signal is a cotton powder charge exploded a little above the lantern, at intervals of 5 minutes. These charges are also used for danger signals. When a vessel is seen standing into danger, the signal flags J. D. of the commercial code will be hoisted, and an explosive signal will be discharged and repeated until observed.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″					
760	Roselare	End of pier	52 15 20	6 20 15	1	Green and red	F		6
761		On cliff N. W. by W. ¾ W. 1⅛ miles from pier light.			1	Green	F		8
762	Lucifer Shoals	Light-vessel in 21 fathoms, 2 miles eastward of shoals.	52 21 30	6 10 25	1	Red	F		8
763	Blackwater Bank.	Light-vessel in 20 fathoms, 3½ miles E. ¼ N. of north buoy on Blackwater buoy.	52 30 45	6 4 10	1	White	F		10
764		South light-vessel, in 26 fathoms, 2 miles from south end of bank.	52 41 15	5 56 40	1	White	Rev	Half minute.	10
765	Arklow Bank	North light-vessel, in 18 fathoms, S. E. by E. ¾ E. 3¼ miles from north buoy of bank.	52 53 40	5 50 40	1	White	Fl	One minute.	10
766	Arklow Harbor.	End of north pier.			1	Red	F		
767		End of south pier.			1	White	F		8
768	Wicklow	On the head	52 57 54	6 0 8	1	White	Occ	Thirteen seconds	16
769		End of harbor pier.			1	Red and white.	F		
770	Codling Bank	Light-vessel in 9 fathoms, about S.E. ½ S. distant 4½ miles nearly from the 4-fathoms line at the south end of the bank.	53 3 30	5 44 30	1	Red	Rev	Twenty seconds	9
771	Dublin Bay. Kish	Light-vessel in 13 fathoms, 1½ miles northeastward of north end of the bank.	53 19 20	5 54 42	1	White	Rev	One minute.	10

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
760	White	27	.....	1884	D. 6th Ord.	Leading lights in line N. W. by W. ½ W., Wly., entering by South Shear, keep the cliff light just open southward of the pier light, bearing N. W. by W. ½ W. North Shear is well defined between Long and Dogger banks by keeping in the *red* sector of the outer or pier light, and in the *green* sector of the western or cliff light. Outer light *green* from N. 57° W. (leading northward of Cawmeens) to S. 44° W. (passing westward of Long bank and Holden's bed) and *red* westward to N. 44° E. Western light visible from S. 47° W. (leading eastward of Dogger bank) and N. 22° E. Rosslare pier has been extended 350 feet in a northerly direction, and a small temporary *white* light is shown near its seaward end.
761	White perch	47	.....	1884	C	
762	Black, with white stripe, three masts, globe on main-mast.	39	.....	1868	C	*Lucifer Shoals* in white letters on sides. Gong sounded in foggy weather. *See* regulations on page 3.
763	Black, with white stripe, three masts, two globes on main-mast.	38	.....	1857	C	*Blackwater Bank* in white letters on sides. During foggy weather a gong is sounded. *See* regulations on page 3.
764	Black, with white stripe, three masts, half globe over globe on main-mast.	39	.....	1824	C	*Arklow Bank South* in white letters on sides. During foggy weather a gong is sounded. The vessel lies south 1½ miles from the depth of 3 fathoms, on the southeastern edge of the bank. *See* regulations on page 3.
765	Black, with white stripe, one mast and jiggermast, one ball.	38	.....	1867 1879	C	Shows two flashes in quick succession, occupying 15 seconds, followed by 45 seconds darkness. *Arklow Bank North* in white letters on sides. Gong sounded in foggy weather. *See* regulations on page 3.
766	.....	15	.....	1883	Oil	
767	.....	15	.....	1885	Oil	End of new works (150 feet farther seaward than last year).
768	White	121	46	1818 1867	D. 1st Ord., gas.	Light 10 seconds, eclipse 3 seconds. There are two other towers on this head, W. N. W. from the lighthouse.
769	White	35	.....	1884	D. 4th Ord.	*Red* seaward, *white* in the harbor from N. W., through north, to S. S. E.
770	Black, with white stripe, three masts, globe and half globe on main-mast.	39	.....	1867	C	*Codling Bank* on sides. Fog siren in thick or foggy weather gives a blast of 1½ seconds, interval 5 seconds; blast 1½ seconds, interval 5 seconds; blast 1½ seconds, interval 105 seconds. *See* regulations on page 3.
771	Three masts, ball on main-mast.	86	.....	1881	C	*Kish* on sides. In foggy weather a gun is fired twice in quick succession every eight minutes. *See* regulations on page 3.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″					
772	Dublin Bay—Continued. Kingstown.	East pier head..	53 18 7	6 7 40	1	White and red alternately.	Rev ..	Half minute.	9
773		West pier head..	.....	.....	1	Red	F	.....	2
774	Poolbeg.....	End of South Bull wall at entrance to river Liffey.	53 20 30	6 9 0	1	White	F	.....	12
775	North Bull..	End of North Bull wall.	.....	.....	1	White	Occ...	Fourteen seconds	10
776	Beacon Light No. 1.	North side of channel.	.....	.....	1	White	Occ...	Four seconds	9
777	Eastern Breakwater (Perch).	On north bank, 2 miles from entrance.	.....	.....	1	White	F	.....	.....
778	North Wall.	On North Wall Quay.	.....	.....	1	White	F	.....	8
779	Bailey	Southeast point of Howth Peninsula.	53 21 40	6 3 6	1	White	F	.....	15
780	Howth	East pier head..	53 23 35	6 4 0	1	Red	F	.....	11
781	Skerries Bay ..	Pier head.....	53 35 8	6 6 20	1	Red	F	.....	5
782	Balbriggan	Pier, south side of entrance.	53 36 45	6 10 40	1	White, with red sector.	F	.....	10
783	Rockabill.....	Summit of larger rock.	53 35 47	6 0 20	1	White and red.	Fl	Twelve seconds	18
784	Drogheda Harbor entrance.	Sand hills, south side of Boyne River.	53 43 0	6 15 0	3	East white. West white. North red.	F	.....	6
		The west light bears from the east light W. by N. 100 yards.	.....	.....	.....	.....	F	.....	6
		The north light is N. by W. ½ W. 780 yards from the east light.	.....	.....	.....	.....	F	.....	6
785	Boyne River....	Sides of channel.	.....	.....	9	White, green ..	F	.....	.....

COAST—Continued.

No.	Color or any peculiarity of lighthouse or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
772	Granite, white lantern.	41	41	1822	C.....	Observed southward of N. W. ¼ N., to clear the Muglin Rocks. During foggy weather a bell is sounded ten times every minute.
773	Granite, white lantern.	86	29	1845	C.....	
774	White.....	66	.....	1768	D. 3rd Ord..	Fog siren, during thick and foggy weather, will give two blasts in quick succession every forty seconds in the following order: The first blast a high note of two seconds duration, a silent interval of one second, a low note of two seconds, followed by a silent interval of thirty-five seconds.
775	Black.....	50	.....	1880	D. 4th Ord.	Bright 10 seconds; eclipsed 4 seconds. In foggy weather a bell is sounded four times in quick succession every 30 seconds.
776	Black.....	40	.....	1882	D, 4th Ord.	In foggy weather a bell is sounded three times in quick succession every 20 seconds.
777	Black.....	27	.....	1886	.....	In foggy weather a bell is sounded twice in quick succession every 15 seconds.
778	Octagonal, black..	30	.....	1820	D. 5th Ord.	In foggy weather a bell is sounded once every 10 seconds.
779	White.....	134	42	1671	D. 1st Ord gas.	In foggy weather a siren gives a blast of 5 seconds every minute.
780	... do.....	43	87	1818	C.....	
781	White pillar.....	25	.....	1878	C.....	Visible from S. by E. ¼ E., through east, to N. ¼ E.
782	White.....	42	58	1769	C.....	A sector of *red* light shown between the bearings of N. N. W. ¼ W. and N. W., covers the Skerries.
783	Circular, gray stone.	148	105	1860	D. 1st Ord., gas.	*White* from N. ¾ W., through west, to S. S. W. ¼ W.; and *red* when seen from the west or landward side between the same bearings.
784	Iron framings....	27	30	1842	C.....	The east light is visible from seaward between W. ¼ S. and N. W. by W. ¼ W., and bears from Rockabill N. N. W. ¼ W. 11 ¼ miles. The west light is visible between W. ¼ S. and N. W. by W. ¼ W. The positions of these lights will be occasionally changed, as the depths on the bar alter. Kept in line will lead vessels in deepest water over bar, and when the bar is passed the course should be altered towards the north light as soon as it opens.
	.....	40	.....	.....	C.....	
.....	.....	23	.....	.....	C.....	
785	.....	.....	.....	.....	.....	On north side the channel is marked by six *white* lights. The outermost (on bluff head) is visible from N. W. ¼ W., through north, to S. E. ¼ E. The south side is marked by one *green* (nearest the entrance) and two *white* lights. All these lights are obscured seaward, and are only shown from half flood to half ebb.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
786	Dundalk.....	North entrance of channel.	53 58 40	6 17 40	1 White, with red sector.	Fl ...	Fifteen seconds	9
787	Carlingford. Haulbowline Rock.		54 1 10	6 4 45	1 White.....	F.....	.....	15
					1 Red in same tower.	F.....		
					1 White in same tower.	F.....		
788	.....	On the western edge of the shoal between Soldiers Point and Green Island.	.....	.....	1 White..... NNW. ½ and SS. E. ½ E., 500 yards apart.	F.....	.....	5 Inner.
			.....	.....	1 White.....	F.....	.....	6
789	Greenore Point.		54 2 0	6 7 52	1 White.....	Rev...	Forty-five seconds	9
790	Greenore Pier.	100 yards N. ½ E. from former.	.....	.....	1 Red.....	F.....	.....	5
791	Dundrum Bay ..	St. John Point ..	54 13 10	5 40 0	1 Red.....	Int ...	One minute	12
792	Dundrum Harbor.	On old quay	.....	.....	2 White.....	F.....	.....	....
793	Ardglass	Inner Pier Head.	54 15 10	5 36 50	1 White and red	F.....	.....	6
794	.....	.....	.....	.....	.....	.....	.....	.....
795	South Rock.....	Light vessel in 30 fathoms, 2 miles E. ½ S. from South Rock.	54 24 40	5 22 20	1 White.....	Rev ..	One and a half minutes.	10
796	Skulmartin Rock.	Light vessel in 20 fathoms, ESE. about one mile from reef.	54 32 20	5 25 50	1 White.....	F.....	.....	10
797	Donaghade Harbour.	Southeast pier head.	54 38 45	5 32 1	1 Red and white sectors.	F.....	.....	12
798	Mew Island.....	Eastern point of island.	54 41 50	5 31 30	1 White.....	Group Fl.	One minute.	16

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
786	On red screw piles, white.	33	.....	1856	D. 4th Ord.	*White* seaward when bearing between W. ¼ S. and N. by W. ¼ W., masked to cover the Dunany reefs between N. by W. ¼ W. and N. N. E. *Red* over the southwest banks between N. N. E. and S. E., by S. and *white* in the direction of the channel to Dundalk when bearing between S. E. by S. and S. ¼ E., and is masked over the N. E. sandbanks between S. ¼ E. and W. ¼ S. A bell strikes six times in a minute during fogs. From the bar to the quay is lighted with 13 beacon lights.
787	White.....	104 68 59	111	1823	C ..... C ..... C	The lower light half down the tower is shown from half flood to half ebb. A ball is hoisted by day during same period. A *red* light from a window in the third floor is shown between SW. ¼ S. and SW. ¼ W., as a turning point. In foggy weather a bell is sounded every half minute.
788	White on red screw piles.	23	28	1873	D. 8th Ord.	Leading lights, and in line lead through the new cut in 14 feet water. Obscured when bearing eastward of NE. by E. ¼ E.
	White on red screw piles.	40	45	1873	D. 8th Ord.	
789	White.....	29	41	1830	C	This light is obscured by a building on Greenore pier eastward of a S. ¼ E. bearing.
790	White pillar.....	33	26	1872	D. 8th Ord.	This light in line with Greenore Point light leads between Watson and Stalka Rocks.
791	White.....	62	.....	1844	D. 2d Ord., gas.	Light 45 seconds, eclipse 15 seconds. Shaded across Dundrum Bay when bearing southward of E. by S. ¼ S.
792	.....	.....	.....	1877	.....	For local traders only. Shown from 2½ hours before high water to 2 hours after.
793	Tower	33	32	1816 1887	D. 5th Ord.	*White* in channel, from N. 27° W. to N. 9° W., and *red* in shore of these bearings.
794	.....	.....	.....	.....	.....	
795	Black with white stripe, ball on main mast.	38	.....	1877	C	*South Rock* on sides. In foggy weather a gun is fired every 15 minutes. Vessels should not pass between the light vessel and the end of the reef. *See* regulations on page 3.
796	Black with white stripe, one mast with two half-balls and jigger mast.	38	.....	1886	C	*Skulmartin* on sides. In foggy weather a double sounding explosive fog signal is fired every 10 minutes. *See* regulations on page 3.
797	White.....	56	53	1830	D. 4th Ord.	*Red* between NNW. and SW., and *white* from N. ¼ W. to NNW., and from Orlock Point to SW. The light is obscured between N. ¼ W. and the shore.
798	Gray	121	.....	1884	.....	Shows four flashes every minute— The group of flashes occupy about twenty-two seconds (each flash lasting about four seconds, and the eclipse about one and three quarter seconds); the interval between each successive group of four flashes occupies about thirty-eight seconds. During the interval between each group, weak reflected flashes may be

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
799	Belfast Bay. Carrickfergus Harbor	.....	.....	.....	1 White	F	.....	....
800	Belfast Bay. Holywood Bank.	On elbow of, in 8 feet water.	54 39 0	5 53 0	1 White	Occ	Twelve seconds.	5
801	Belfast Bay. Holywood Pier.	.....	.....	.....	2 Green	F	.....	....
802	Lough Larne. Farree Point	.....	54 51 7	5 47 21	1 White, with red sector.	F	.....	11
803	Lough Larne. Curran Pier.	.....	.....	.....	2 Red.....	F	.....	4
804	Maidens	On the western rock, NW. by W. ½ W. 800 yards apart.	54 55 47	5 44 18	1 White	F	.....	13

804a	Maidens	On the eastern rocks.	.....	.....	1 White	F	.....	14
			.....	.....	1 Red	F	.....	8
					Window of same tower.			
805	Glenarm Harbor.	Pier	.....	.....	1 White	F	.....	....
806	Glenarm Harbor.	Iron ore pier....	54 58 15	5 56 15	2 Red and white.	F	.....	5, 7
807	Rathlin.....	Altacarry head, northeast point of island.	55 18 10	6 10 45	1 White, with red sector.	Int ...	One minute.	21
			Same	tower.	1 White	F	.....	....

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
						observed. Fog siren, during thick or foggy weather, gives a blast of four seconds duration on a low note, followed after an interval of silence of twelve seconds by a second blast of four seconds on a higher note, succeeded by a silent interval of one hundred seconds.
799	.....	.....	.....	.....	.....	Shown from 2 hours before to 2 hours after high water.
800	On screw piles....	27	.....	1848	D. 5th Ord.	Eight seconds of light followed by two short and one longer eclipse. A bell is sounded in foggy weather. There is a *green* light 14 feet high on Holywood Bank, and 2 more *green* lights towards Belfast, all of which are to be left on port side when going up. There is also a *red* light 13 feet high SW. of the beacon, and is to be left on starboard side when proceeding to Belfast.
801	.....	20 16	.....	1882	.....	
802	White	42	50	1839	O	A sector of *red* light is shown between the bearings of SW. by W. and SW. by W. ½ W., to guard Hunter Rock. On the last named bearing the light is intercepted by Bar Point, and is not visible when to the eastward of that bearing. The *red* light is said to be visible about 9 miles.
803	Pillars	.....	.....	1877	.....	Leading lights bearing SW. ½ S. The lower light is darkened when bearing southward of SW. ½ S.
804	Tower white, with red center belt.	82	68	1829	O	

NORTH COAST.

	.....	95	76	1829	O	
804a	....do	48	.....	1889	.....	Visible from S. 16° E. to S. 23° W., to mark Russell and Highland Rocks.
805	.....	.....	.....	.....	.....	
806	.....	18 29	.....	1887	.....	*Red* at eastern end, *white* western end; in line SW. by W. ½ W. lead towards the pier, southward of that bearing they are obscured. } Small light only shown when vessels are expected.
807	Circular, white, with a red belt under the gallery.	243	88	1856	D. 1st Ord.	Light 50 seconds, eclipse 10 seconds. The upper light is visible from SE., through south and west, to NE. by N. Also in passing through Rathlin sound between NE. by E. ½ E. and E. ½ N. A *red* light is shown in direction of Carrick-a-vaan rock from the same lantern. The lower light is seen between SE. by S. and NNE. ½ E., but not visible in Rathlin sound. A gun is fired at intervals of fifteen minutes during fog. When vessels are seen standing into danger, the signal flags J. D. of the commercial code will be hoisted, and a gun will be fired and repeated till the signal is observed.
	.....	183	.....	.....	.....	

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″					
808	Port Rush	Northwest pier head.			1	White	F.		
809	Coleraine	Southwest pier head.			1	Red	F.		
810	Lough Foyle. Inishowen	Dunagree point.	55 13 38	6 55 38	1	East light white.	F.		13
					1	West light white with red sector. 153 yards apart.	F.		15
811	Lough Foyle. Warren Point.	North side of entrance.			1	Red and white.	F.		
812	Lough Foyle. Moville	3 cables SSE. from quay, in 9 feet.	55 10 20	7 2 20	1	White	Occ.	Ten seconds.	8
813	Lough Foyle. Red Castle	Outer edge of Ridge shoal.			1	White	F.		
814	Lough Foyle. White Castle.	Southeast side of channel.			1	White	F.		
815	Lough Foyle. Ture	On spit, southeast side of channel.			1	White	F.		
816	Lough Foyle. Cunnyberry, (Coney Burrow.)	On flats, northwest side of channel.			1	White	F.		
817	Lough Foyle. Culkeeragh.	East side of entrance, 200 yards from high water.			1	White	F.		
818	Lough Foyle. Culmore	On point.			1	White	F.		
818a	Lough Foyle. Ballynagard.	West side of channel.			1	White	F.		
819	Lough Foyle. Boom Hall	Northwest side of channel.			1	White	F.		
820	Lough Foyle. Rosse Bay	South side of channel.			1	White	F.		
820a	Lough Foyle. Pennyburn	West side of channel.			1	White	F.		
821	Lough Foyle. Rock Mill	Northward of graving dock.			2	White and red. E. by S. 200 yards apart.	F.		
822	Inishtrahull	Northeast part of island.	55 25 55	7 13 37	1	White	Rev.	Half minute.	18

IRELAND NORTH

823	Lough Swilly. Dunree Head.		55 11 50	7 33 10	1	White	F.		18
824	Lough Swilly. Buncrana Pier.				1	Red	F.		

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
808	.....	.....	.....	1882	Gas.....	A *red* sector to SW. from southern pier.
809a	.....	.....	.....	.....	.....	Also two *green* lights to lead between the piers. The river lights are *white* and *red*; white to be kept on starboard hand entering, red on port hand. They are shown from timber piles.
810	Circular, white.	67	49	1837	C.....	
	.....	92	74	.....	.....	A *red* sector of light is shown from the west tower, 25 feet below the white light, over the northeast end of Tuns bank, between W. by N. ½ N. and NW. ½ W.
811	Circular, white; abutment black.	15	.....	1861	D. 6th Ord.	The light shows *red* to the southward between about E. by N. ½ N. and W. ½ S.; *white* seaward from about W. ½ S. northward as far as the land will allow, and is not cut off for Bluick rock and other outlying dangers; it will also show *white* up Lough Foyle from about E. by N. ½ N. to about E. ½ N. From the bearing of E. ½ N. to the shore the light is obscured.
812	White, dwelling on black piles.	37	.....	1884	.....	Light five seconds, eclipse five seconds.
813	White house, on black piles.	25	.....	1852	.....	Two-thirds of a mile SW. ½ S. of Red castle, and north side of channel.
814	White house, on red piles.	26	.....	1848	.....	
815	White house, on red piles.	25	.....	1850	.....	Two-thirds of a mile S. by E. ½ E. from Ture point.
816	White house, on black piles.	25	.....	1848	.....	Half a mile off west shore.
817	Circular, white...	50	.....	1851	.....	
818	White house, on black piles.	45	.....	1848	.....	
818a	White house, black foundation.	.....	.....	.....	.....	
819	Circular, white...	82	.....	1859	.....	
820	White house, on red piles.	20	.....	1859	.....	
820a	White, abutment black.	.....	.....	.....	.....	
821	.....	23 8	.....	1880	.....	Leading lights. The eastern or low light is *red*, the western *white*.
822	White	181	42	1812	D. 1st Ord.	

AND WEST COAST.

823	.....	150	.....	1876	D. 3rd Ord.	The light is visible from SSW. ½ W., through east, to N. ½ W. The lantern is attached to the ground floor of a dwelling house 133 yards NE. of Dunree Fort.
824	Pillar.....	25	18	.....	C	The small *red* light exhibited from a pillar on the pier, as a guide to the anchorage off the town, is visible between S. by E. ½ E., through east, and E. by N. ½ N.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
825	Lough Swilly—Continued. Fanad Point.	.....	55 16 33	7 37 53	1 White seaward, red from N. 12° W. to the land.	Occ...	Half minute.	17
826	Tory Island	Northwest point.	55 16 26	8 15 0	1 White	Group, Fl.	One minute.	16
827	Aran or Aranmore Island.	Rinrawros or northwest point of Aran Island.	55 0 52	8 33 48	1 Alternate red and white.	Rev ..	Twenty seconds	25
					1 Red, in same tower.	F	.....	....
828	Rathlin O'Birne.	On west side of the island.	54 39 47	8 49 52	1 White and red.	F	.....	16
829	Killybegs.....	St. John Point ..	54 34 8	8 27 33	1 White	F	.....	14
830		Rotten Island...	54 36 51	8 26 23	1 White, with red sector.	F	.....	12
831	Sligo Harbor..	Black Rock, south side of entrance to harbor.	54 18 0	8 37 0	1 White	F	.....	13
832		Oyster Island, within the entrance.	54 18 5 N. light.	8 34 4	2 White. NW. ¼ N. and SE. ¼ S. 165 yards apart.	F	.....	11
832a		N. end of east training wall.	.....	.....	1 Red.....	.....	.....	....
832b		West training wall, about three-quarters of a mile above preceding light.	.....	.....	1 White	.....	.....	....
833	Killala Bay.....	From a window of tower at Ross coast-guard station, west side of bay.	54 13 55	9 11 45	1 Red	F	.....	....
834	Broadhaven	Guba Cashel Point, west side of entrance.	54 16 0	9 53 0	1 White and red	F	.....	15
835	Eagle Island....	WSW. 3½ miles from Erris Head.	54 17 0	10 5 31	2 White. E. by N. ¼ N. and W. by S. ¼ S. 132 yards apart.	F	.....	20
836	Black Rock.....	Western extremity.	54 4 10	10 19 20	1 White and red	Fl	Half minute.	22

WEST COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating appa-ratus.	Remarks.
825	Circular, white ...	127	73	1816 1886	D. 2nd Ord.	Light for 20 seconds; eclipse 2½ seconds; light 5 seconds, followed by an eclipse of 2½ seconds. Shows *white* seaward, to the bearing N. 12° W., and *red* from that bearing to the land, to guard vessels when near Swilly Rocks. Also a *fixed* white light elevated 72 feet above high water, and visible through an arc of 10°, or between the bearings of S. 54° E. and S. 44 E. to mark Limeburner Rock.
826	White	130	87	1832 1887	D. 1st Ord..	The group of three flashes occupies about 14 seconds, each flash lasting about 3 seconds, each eclipse about 2½ seconds. Between the groups, reflected flashes may be seen. Southeast of the island the light disappears behind its heights between NW. ¾ N. and NW. by W. ½ W. During thick or foggy weather a siren gives a blast of 5 seconds' duration every minute.
827	Circular, white ...	233	76	1865	D. 1st Ord..	
....	.....	200	.....	1877	C	The *red* light below the principal light, is shown in the direction of Stag rocks, visible between SW. by W.½ W. and W. by S.
828	Circular, white; red dome.	116	65	1856	C	*White* between SW. ¼ S. and NNW. ¼ W. and *red* towards the mainland and southeastward of the island.
829	White	98	47	1831	C	
830	White	66	47	1838	C	*A red* sector is shown over Bullockmore Rock, between NE. ¾ N. and NE. by E. ¾ E.
831	White	79	94	1835	C	
832	White	40 49	43 3	1837	C	Leading lights after passing the bar. Eastern light should be kept at 4° open northward of the western light to clear Bungar Bank. A *red* light is also shown from Blennick Rock perch, and a *white* light on Black perch. During winter months.
832a	Beacon	14	.....	1887	.....	
832b	Stand.....	9	.....	1887	.....	
833	.....	.....	.....	1878	C	Visible from W. by S. ½ S. to W. by N. ½ N. To clear St. Patrick Rocks.
834	Stone color	87	50	1855	D. 3rd Ord..	*White* seaward, and towards east side of haven, and *red* towards west side of haven.
835	White	220 220	87 64	.....	C ..... C	The lights in line lead clear of all out lying rocks between Blacksod Bay and Broadhaven; and also the Stags, eastward of latter. Obscured between the bearings of N. by E. and W. by N.
836	Circular, white ...	283	50	1861	D. 1st Ord..	*White* seaward, and *red* towards the land between the bearings of SW. by W. ½ W. and NW. by W.

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.		Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″					
837	Blacksod Point.	Termom Pier, just within the point.	54 5 45	10 3 34	1	White and red	F.....	.....	10
838	Clew Bay. Clare Island	North Point....	53 49 30	9 59 30	1	White	F	.....	27
839	Clew Bay. Inishgort ..	On south point of the island, entrance to Westport.	53 49 34	9 40 12	1	White	F	.....	10

IRELAND—

840	Slyne Head.....	Illaunimmul Island, off head.	53 23 58	10 14 1	1	One red and two white faces alternately.	Rev...	Two minutes	15
					1	White. S. ¼ W. 142 yards from former.	F.....	.....	14
841	Galway Bay. Eeragh Island.	West point	53 8 55	9 51 30	1	White	Rev ..	One minute.	16
842	Galway Bay. Straw Island	Killeany Bay ...	53 6 56	9 37 45	1	Red.....	F.....	.....	6
843	Galway Bay. Inisheer Island.	South point.....	53 2 40	9 31 30	1	White, with red sector.	F.....	.....	15
844	Galway Bay. Mutton Island.	Center.....	53 15 13	9 3 10	1	White	F.....	.....	10
845	River Shannon. Loop Head.	500 yards E. by S. from extreme.	52 33 38	9 55 54	1	White	Occ...	Twenty four seconds	22
846	River Shannon. Kilcradan ..	On the point....	52 34 47	9 42 34	1	Red and white.	F.....	.....	16
847	River Shannon. Scattery Island.	100 yards from south point.	.....	.....	1	White, with red sector.	F.....	.....	10
848	River Shannon. Tarbert	On the rock	52 35 30	9 21 47	1	White.....	F	.....	13
849	River Shannon. Beeves Rocks.	Near the south end of the rocks.	52 39 0	9 1 18	1	White and red sectors.	F.....	.....	10
850	River Shannon; upper part of the Estuary below Limerick. Horse Rock.	On north side of channel, about 12¾ miles below Limerick.	.....	.....	1	White, green, red.	F.....	.....	9
851	River Shannon; upper part of the Estuary below Limerick. Sod Island..	On north side of channel, about 10½ miles below Limerick.	.....	.....	1	White.....	F.....	.....	9
852	River Shannon; upper part of the Estuary below Limerick. Moy Hill ...	On Moy Hill Point, north side of channel, in shore, about 9 miles below Limerick.	.....	.....	1	White.....	F.....	.....	12
853	River Shannon; upper part of the Estuary below Limerick. Logheen....	On north side of channel, about 9 miles below Limerick.	.....	.....	1	White.....	F.....	.....	8
854	River Shannon; upper part of the Estuary below Limerick. Spilling Rock.	On south side of channel, about 8 miles below Limerick.	.....	.....	1	White.....	F.....	.....	7
855	River Shannon; upper part of the Estuary below Limerick. Crawford Rock.	On north side of channel, about 6 miles below Limerick.	.....	.....	1	White.....	F.....	.....	8
856	River Shannon; upper part of the Estuary below Limerick. Crawford No. 2.	On north side of channel, about 5¾ miles below Limerick.	.....	.....	1	Red	F.....	.....	6
857	River Shannon; upper part of the Estuary below Limerick. Whelps Rocks.	North edge of Whelps bank, about 6 miles below Limerick.	.....	.....	2	Green, vertical.	F.....	.....	5

WEST COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
837	Square granite tower above dwelling, reddish gray.	42	.....	1866	D. 3rd Ord.	*White* from NE., through north and west, to SW. by W., and *red* from SW. by W. to SW. ¼ S.
838	White.....	341	39	1806	C.....	
839	White.....	36	26	1827	C.....	

WEST COAST.

840	White	115	79	1836	C	These lights, in line, lead outside the rocks between Galway and Clew Bays.
.....	.....	104	79	.....	.....	
841	White, two red horizontal belts.	115	101	1857	D. 1st Ord..	
842	White	30	.....	.....	D. 5th Ord .	Visible between E. by S. ¼ S. and NW.
843	White, broad red horizontal belt, 28 feet in width.	110	112	1857	D. 1st Ord .	Visible from the westward, southward, and eastward, between SE. ¼ S. and W. by S. ¼ S. A sector of *red* light is shown in the direction of Finnis rock.
844	White	33	34	1817	C.....	
845	Circular, white ...	277	75	1853	D. 1st Ord..	Light 20 seconds, eclipse 4 seconds. Visible from seaward between SW. by W. ½ W. and NW. by W.
846	White	133	43	1824	C	*Red* seaward, and *white* towards river.
847	White	50	.....	1872	D. 5th Ord .	*Red* over Rinana Shoal between the bearings NNE. and NE. by E. ½ E. The white light is eclipsed landward between SW. ¾ W. and SE. by E. ½ E.
848	White.....	58	54	1834	D. 3rd. Ord.	
849	Dark stone colour.	40	.....	1854	D. 3rd. Ord	*White* between E. ½ N. and NW. by W., and *red* to the northward over Cork and Wide Rocks.
850	Small wooden house on piles.	22	.....	1870	D.....	*Green* over passage between east tail of flat sand north end of Waller Bank; *red* over Waller Bank; and *white* in other directions.
851	White iron perch.	18	.....	1870	Oil.....	
852	Wood perch	22	.....	1884	.....	Slightly open north of Sod Island light E. ¼ S. leads northward of Bridges Rocks and Waller Bank, flats, etc.
853	Iron perch.....	14	.....	1870	Oil.....	
854	....do.....	16	.....	1870	....do	
855	...do	20	.....	1870	Oil.....	
856	Wood perch.....	28	.....	1876	.....	Auxiliary to Crawford Rock and Flagstaff Rock lights.
857	Iron perch.....	15	.....	1885	.....	

No.	Name of light.	Position.	Latitude.	Longitude.	Number and color of lights.	Character of light.	Interval of revolution or flash.	Miles seen in clear weather.
			North. ° ′ ″	West. ° ′ ″				
858	River Shannon; upper part of the Estuary below Limerick—Con'd. Flagstaff Rock.	On north side of channel, about 5½ miles below Limerick.	.....	.....	1 White	F	.....	4
859	Meelick Rock.	On north side of channel, about 4 miles below Limerick.	.....	.....	1 White	F	.....	8
860	Meelick, No. 2.	1¼ cables SE. ¼ E. from Meelick Rock, about 3¾ miles below Limerick.	.....	.....	1 Red	F	.....	.....
861	Coonagh Point.	On north side of channel, about 3 miles below Limerick.	.....	.....	1 White	F	.....	4
862	Bræmar Point.	On south side of channel, about 2½ miles below Limerick.	.....	.....	1 White	F	.....	5
862a	Bræmar, No. 2.	....do	.....	.....	1 White	F	.....	4
863	Clonmacken Point.	On north side of channel, about 1½ miles below Limerick.	.....	.....	1 White	F	.....	4
864	Spillane Tower.	On south side of channel, about 1 mile below Limerick.	.....	.....	1 White to eastward, red to westward.	F	.....	9
865	Pier head at dock.	On south side of channel, at Limerick.	.....	.....	1 White to eastward, red to westward.	F	.....	3 to 4.
866	Tralee	On Little Samphire island.	52 16 14	9 52 53	1 Red and white.	F	.....	8
866a		End of Fenit pier.	.....	.....	1 Green	.....	.....	.....
867		End of north pier of canal.	.....	.....	1 Red and white.	F	.....	.....
868	Tearaght	Westernmost of Blaskets islands.	52 4 30	10 40 0	1 White	Fl	One minute.	22
869	Dingle Harbor	Northeast side of entrance.	52 7 15	10 15 30	1 Red	F	.....	9
869a		South end of pier	.....	.....	1 Red	F	.....	.....
870	Valentia	Cromwell point.	51 56 0	10 19 16	1 White	F	.....	12
871	Skelligs	Highest rock, 7½ miles off shore.	51 46 14	10 32 45	1 White	F	.....	18
872	Bull Rock	On side of rock.	51 35 30	10 18 3	1 White	Fl	Fifteen seconds.	23
873	Bantry Bay. Roancarrig island.	At eastern entrance.	51 39 10	9 44 49	1 White	F	.....	12
874	Crookhaven	Rock Island point, north side of entrance.	51 28 35	9 42 39	1 Red and white sectors.	F	.....	13 to 10 red.

COAST—Continued.

No.	Color or any peculiarity of light-house or vessel.	Height in feet above high water.	Height in feet of building from base to vane.	Year established or altered.	Character and order of illuminating apparatus.	Remarks.
858	Wood perch	21		1876		
859	Iron perch	22		1870	Oil	In line with red light clears Horrils rock.
860	Timber perch	25		1876		Auxiliary to Meelick rock light to clear Horrils rock.
861	White timber perch.	23		1870	Oil	
862	Timber perch	18		1870 1880	do	In line clear Cock rock.
862a	do	24		1880		In line clear Cock rock.
863	do	25		1870	do	
864	NE. turret of tower.	36		1885	Gas	
865	White hut	13		1870	do	
866	Circular, blue stone.	56		1854	D., 4th ord.	*White* between S. ¼ W. and E. by S. ¼ S.; *red* from E. by S. ¼ S. to W. by N. ¾ N.
866a		12		1888		
867						*Red* to northward, *white* west, south, and east; a *blue* light is shown from the lock.
868	White	275	57	1870 1883	D., 1st ord.	Shows two flashes in quick succession, occupying 15 seconds, followed by 45 seconds darkness. Visible from N. by W., through east and south, to SW. by W. ¼ W.
869	Iron	64	24	1887	D., 5th ord.	
869a		13		1888		
870	White	54	48	1841	C	Visible between SE. ¼ E. and SSW. ¼ W.
871	do	175	46	1836	C	Visible between SE. ¼ S. and W. by N. ¼ N. The light is shown from the lower tower; the upper tower is not lighted.
872	do	271	49	1889	D., 1st ord., gas.	One flash every 15 seconds, obscured from S. 32° W. to S. 65° W. During thick or foggy weather, an explosive fog signal is sounded twice in quick succession every 10 minutes.
873	Circular, white, with red belt.	55	62	1847	C	Visible between W. ¼ N. and SE. by E. ¼ E.
874	White	67	45	1867	D., 3d ord.	*Red* between N. ¼ E. and NW. by W.; and *white* northward of latter bearing to clear Alderman rocks.

TABLE OF DISTANCES.

BY ALAN STEVENSON.

Table of distances at which objects can be seen at sea, according to their respective elevations and the elevation of the eye of the observer.

Heights in feet.	Distances in statute or English miles.	Distances in geographical or nautical miles.	Heights in feet.	Distances in statute or English miles.	Distances in geographical or nautical miles.	Heights in feet.	Distances in statute or English miles.	Distances in geographical or nautical miles.
5	2.958	2.565	70	11.067	9.598	250	20.016	18.14
10	4.184	3.628	75	11.456	9.935	300	22.912	19.87
15	5.123	4.443	80	11.832	10.26	350	24.748	21.48
20	5.916	5.130	85	12.196	10.57	400	26.457	22.94
25	6.614	5.736	90	12.549	10.88	450	28.062	24.33
30	7.245	6.283	95	12.893	11.18	500	29.580	25.65
35	7.826	6.787	100	13.228	11.47	550	31.024	26.90
40	8.366	7.255	110	13.874	12.03	600	32.403	28.10
45	8.874	7.696	120	14.498	12.56	650	33.726	29.25
50	9.354	8.112	130	15.083	13.06	700	35.000	30.28
55	9.811	8.509	140	15.652	13.57	800	37.416	32.45
60	10.246	8.886	150	16.201	14.22	900	39.636	34.54
65	10.665	9.249	200	18.708	16.22	1,000	41.833	36.28

EXAMPLE: A tower, 200 feet high will be visible to an observer whose eye is elevated 15 feet above the water 21 nautical miles; thus, from the table:

15 feet elevation, distance visible 4.44 nautical miles.
200 " " " 16.22

20.66

INDEX TO LIGHTS IN THE BRITISH ISLES.

	No.
Aberdeen	351 to 353
Aberdovey	632a
Abertay	335
Aberystwith	633
Admiralty Pier	113
Ailsa Craig	492
Albert Pier	48
Alderney Harbor	38, 39
Alloa	305, 305a
Alsh, Loch	413
Altacarry Head	807
Alum Bay	57a
Amlwch, Port	618
Annan River	503
Anstruther, Union Harbor	323 to 326
Anvil Point	54
Aran or Aranmore Island	827
Arbroath	341 to 344
Ardglass	793
Ardnamurchan	481
Ardrishaig	450
Ardrossan	484
Arklow Bank	764, 765
Harbor	766, 767
Arniah, point and reef	418, 419
Arran Island	451
Auskerry	401
Avon	672 to 674
Ayr Harbor	487 to 490
Ayre Point	555
Babbacombe	27
Bahama Bank	574
Bailey	779
Balbriggan	782
Ballinacourty	748
Ballycottin Island	746
Ballynagard	818a
Baltimore Harbor	731
Banff	367
Bantry Bay	873
Bar Flat	185
Bar light vessel	595
Barbican	16
Bardsey Island	631
Barnkirk, or Annan Foot	503
Barra Head	428
Barrels Rock	758
Barrow Channel	581
Beachy Head	101
Beaumaris	614
Beeves Rocks	849
Belfast Bay	799 to 801
Bell Rock	332
Belle Toute Cliff	101
Bernera Island	428
Berwick	249
Bidefork	683
Bidston	603
Birkenhead	606
Bishop Rock	1
Black Head	752
Rock	741, 836
Blackpool	589
Blacksod Point	837
Blackwater Bank	763
Blasket Islands	868
Blyth	241, 242a
Boddom	356, 357
Bognor	92
Bolsdale, Loch	426
Bo'ness	301
Boom Hall	819
Boston	187
Bound Skerry	407
Bournemouth	56
Bowling Bay	480
Boyne River	784, 785
Brading Haven	79
Braemar point	862, 862a
Braunton Sands	683
Breaksea	664
Breakwater, Holyhead	620
Peel	557
Plymouth	14
Portland	33
Bressay	405
Bridgewater or Burnham	677, 678
Bridlington	216
Brighton	97, 98
Bristol Channel	644 to 684
Britannia Pier	172, 173
Briton Ferry	658
Brixham	23, 24
Broadhaven	834
Broadness	139
Brough	208
Brush Wharf	170a
Buchanness	355
Buckhaven	318
Buckie	371, 372
Buckpool	372
Buddonness	336
Bull Point	682
Rock	872
Sand	194
Buncrana Pier	824
Burghead	376 to 378
Burnham, or Bridgewater	677, 678
Burnmouth	280
Burnt Island	311 to 314
Burry Port	647
Butt of Lewis	415
Cairn Ryan Point	494
Caister	171
Caldy Island	644
Calshot	66, 66a
Calshot Spit	65
Campbellton	447 to 449
Camperdown Dock	340
Cantick Head	396
Cardiff	666, 667
Cardigan Bay	634
Cardross	476
Carlingford	787 to 790
Carloway, Loch	417
Carnarvon Bay	627 to 630
Light vessel	627
Pier	629
Carraig Fadda Point	443
Carrickfergus	799
Carron River	303, 304
Casquets	37
Castle Bay	427
Cornet breakwater	41
yard	236
Castletown Harbor	563
Cat Islet	412
Cellardyke	327
Chain Pier	97
Chalderness	203
Chanonry	382
Chapman	137
Charles, Fort	735
Charleston	306
Charstone Rock	671
Chicken Rock	559
Clacton-on-Sea	150
Clare Island	838
Clarence esplanade	80
victualing yard	85
Clark Wharf Spit	584
Clevedon	676
Clew Bay	838, 839
Clifford Fort	241
Cloch	459
Clonmacken Point	863
Clyde River	451 to 483
Cockenzie	289
Cockersand Promontory	585
Cockle	174
Codling Bank	770
Coldingham	282
Coleraine	809
Coningbeg	757
Connah Quay	590a
Coonagh Point	861
Coquet	244
Corbière Rocks	52
Cork, or Queenstown Harbor	737 to 743
Cork Ledge	158
Corran Point	434
Crosewall	498
Corton	167
Cote	540
Cove	756
Covesea Skerries	375
Craig Head	375
Craigendoran	466
Craigmore	456
Crail	330
Crawford Rock	855, 856
Crinan Canal	437
Cromarty	384
Cromer	182
Cromwell Point	570
Crookhaven	874
Crosby	597, 598
Culkeeragh	817
Cullen Harbor	369
Culmore	818
Cumbrae Island	445
Cunnyberry	816
Curran Pier	803
Dail-in, Loch	442
Dalmuir	483
Dartmouth	20 to 22
Daunt Rock	736
Davar Island	446
Deal	118
Dee River	599, 599a
Derby Haven	565
Dingle Harbor	860, 860a
Dock Head	865

Index to lights in the British Isles—Continued.

	No.
Dockwray Square	240
Donaghadee Harbor	797
Donald's Quay	481
Douglas Bay	566 to 570
Dove Point	601
Dover	113 to 116
Dovercourt	151
Dovey River	632a
Drogheda Harbor	784
Dubh Artach Rocks	430
Dublin Bay	771 to 780
Dudgeon	189
Dumbarton Rock	478
Dumbuck	479
Dunagree Point	810
Dunbar	284, 285
Dunbeath Harbor	387
Duncannon Fort	751
Dundalk	786
Dundanion	742
Dundee Harbor	339, 340
Dundrum Bay	791
Harbor	792
Dun Point	442
Dungarvan	748
Dungeness	108, 109
Dunkittle	740
Dunmore	750
Dunnet Head	394
Dunree Head	823
Dysart	316
Eagle Island	835
Eastbourne	103
East Buckie	371
Goodwin	119
Loch Tarbert	421
Eastern breakwater	777
Eddystone	13
Edgar, Port	301
Eeragh Island	841
Eil, Loch	434
Elgin and Lossiemouth	374
Elie	319
Ellen, Port	443
England, south and east coasts	1 to 249
west coast	540 to 692
English and Welsh grounds	669
Erin, Port	558
Erroll, Port	354
Exmouth	29
Eyemouth	281
Falmouth Harbor	10, 11
Fanad Point	825
Farn Islands	247, 248
Farrea Point	802
Fastnet Rock	730
Faxfleet	213
Ferriby Sluice	204
Ferry Port-on-Craig	337
Fiddra Island	287
Fifth Buoy	224
Findochty	370
Firth of Clyde	454 to 483
Forth	290 to 329
Tay	335 to 340
Fisherrow	290
Flagstaff Rock	858
Flamborough Head	217
Flatholm	665
Fleetwood	588
Folkestone	111, 112a
Formby	596
Fortrose	381
Forth, Firth of	290 to 329
Fourth buoy	223
Fowey	12
Foyle, Lough	810 to 821
Fraserburgh	360, 361
Gabbard, Outer	161
Galley Head	733
Galloper	149
Galway Bay	841 to 844
Gantock	458
Gardenstown Harbor	365
Garmoyle	477
Garrison Point	133
Garvel Point and Embankment	470 to 473
Giant's Castle Head	3
Gillean Island	413
Girdleness	350
Girdler	131
Girvan Harbor	491
Glasgow, Port	474, 475
Glas Island	423
Glasson Dock	586
Glenarm Harbor	805, 806
Godrevy Island	688
Goodwin Sands	119 to 122
Gordon, Port	373
Gorey	45, 46
Gorleston Pier	170
Gosport	86
Gourdon	348
Gourock	460, 461
Grangemouth	303, 304
Granton	295, 296
Great Castle Head	639
Orme Head	612
Greenock	467 to 473
Gremsa Island	397, 398
Grenore	789, 790
Gribben Beacon	12
Grimsby	195, 196
Guba Cashel Point	834
Guernsey	40 to 43
Gull Stream	121
Gunfleet	145
Gwydir	630
Hanois Rock	43
Harrington	550
Hartland Point	685
Hartlepool	228 to 230
Harwich	151 to 156
Hasborough	179, 180
Hastings	104, 105
Haulbowline Rock	787
Hayle	689, 690
Hazel Beach	643
Hebrides or Western Islands	415 to 428
Helensburgh	464, 465
Helwick	650
Herculaneum Dock wall	609
Herd Sand	239
Hessle	202, 202a
Heugh	230
High Whitby	221
Holburn Head	395
Holywood Bank and Pier	800, 801
Holyhead Island	620 to 624
Holy Island	452
Hornsea	215
Hook Point	749
Horse Rock	850
Sand	77
Howth	780
Hoylake	600
Hoy Sound	397, 398
Humber River	192 to 213
Hunstanton	183
Hurst Point	59
Hythe	68
Ilfracombe	681
Illaunimmul Island	840
Inch Garvie	308
Inch Keith	298
In-Dail, Loch	442
India Arms Wharf	141
Inishgort	839
Inishowen	810
Inisheer Island	843
Inner Dowsing	190
Inishtrahull Island	822
Inverary	450a
Invergordon	384
Inverkeithing	349
Inverness	383
Irvine Harbor	485
Ireland	730 to 874
Iron Rock	438
Isle of Man	555 to 574
Isle of Wight	57, 58, 60 to 62, 89
Islay Sound	443
Islay Island	439, 441
Itchen River	71, 73
Johnshaven	347
Jersey	44 to 52
John pier	549
Keiss	392
Kempock Point	463
Kentish Knock	148
Kilcradan Point	866
Killala Bay	833
Killeany Bay	842
Killingholm	199
Killybegs	828, 830
Kings stairs	84
Kingstown	772, 773
Kingswear	29
Kinnaird Head	362
Rinsale	794, 795
Kirkcaldy	315
Kirondbright	502
Kirkwall	400
Kish bank	771
Kyle Akin	413
Kyles of Bute	456b
Lamlash	452, 453
Langness	564
Languard Point	155, 156
Lantern hill	681
Larne, lough	802, 803
Leasowe	602
Lee Scar	541
Leith	291 to 293
Lelant quay	690
Leman and Ower	181
Lerwick	406
Liffey River	774 to 778
Ling hill	221
Lismore	433
Little Cumbrae Island	454
Hampton	93
head	205
Ferry	338
Ross Island	501
Samphire Island	806
Liverpool Bay	594 to 609
Lizard Point	9
Llanddwyn Island	628
Llandudno	611
Llanelly	648, 649
Loch-in-Dail	442
Logheen	853
Long sand	147
Longhaugh Point	479a
Longsand Hook	184
Longships	6
Longstone	248
Loop head	845
Lossiemouth and Elgin	374
Lough Foyle	810 to 821
Mahon	739
Swilly	823 to 825
Lowestoft	164 to 166
Lucifer shoals	762
Lundy Island	684
Lune River	595, 596
Lybster harbor	384
Lyme Regis	38
Lymington	63, 64
Lynn	186
channel	185
well	184
Lynus	617
Lytham	592
MacArthur head	446
Macduff	369
Mahon, lough	739

Index to lights in the British Isles—Continued.

	No.
aldens rocks	804, 804a
an, Isle of	555 to 574
anacle rocks	9, 10
aplin	143
argate	127, 128
aryport	544 to 548
atilda, fort	461
ay Island	328
eelick rock	859, 860
eelough spit	739
elampus buoy	14
enai	613
ersey and Dee Rivers	594 to 609
ethill	318a
ew Island	798
iddle Cross sand	169
ilford haven	638 to 643
illbay	17
illport	455
ine head	747
inehead	680
inquiers	53
onach Islands	422
ontrose	345, 346a
orecambe Bay	576 to 578
orrisons haven	289a
ount Batten	15
Wise	18
ouse	142
ousedale Island	433
oville	812
oy hill	852
ucking flat	138
uckle Flugga	408
ull of Galloway	500
Cantyre	444
sound	432
umbles	651
utton Island	844
ynidd Buchan	632a
ab	88
airn	380
ash	663
ath	659
eelies rock	57
ess, port	416
etley	67
ewarp	176
ewbiggin	243
ewhalls	300
ewhaven	99, 100, 294
ewlyn	7a
ewport	338
ew Passage	671
Quay	635
South pier	47
ewsham Booth	198
eyland	641, 642
omans land	78
ore	132
orth Arklow bank	765
Berwick	286
Bull	775
Carr	331
Cross sand	176
docks wall	605
Foreland	126
Hasbro'	180
Perch	476
Queensferry	307
Ronaldsha	403
Sand head	122
Shields	240
Stack	625
Sunderland	246, 246b
Tongue	548
Uist	422
Unst	408
Wall	778
W. light vessel	594
orthfleet	141
osehead	391
ran	435

	No.
Old harbor	284
head of Kinsale	734
One Fathom bank	664
Orfordness	160
Orkney Islands	396 to 403
Oronsay Island	414
Out Skerries	407
Outer Dowsing	191
Gabbard	161
Needle rock	57
town camber	82
Ovens spit	138
Oversay Island	441
Owers	90
Oxcar rock	299
Oyster Island	832
Padstow	686
Pakefield	163
Parret River	677, 678
Passage point	753
Patrick, port	499
Peel	556, 557
Pennyburn	820a
Penrhyn	615, 616
Pentland firth	395
Skerries	393
Penzance harbor	8
Peterhead	358 to 359
Philadda Island	436
Piel Harbor	577 to 581
Pillar Bank	476
Pittenween	321 to 323
Pladda	451
Plover Scar Rock	585
Plymouth Sound	14 to 18
Breakwater	14
Poolbeg	774
Poole	55
Poor Head	744
Porthcawl Harbor	661, 652
Portland	32, 33
Portree	411a
Portsoy	368
Portishead	675
Portskewet	670
Portsmouth Harbor	80 to 86
Poulton	583
Princes Channel	130
Queens Channel	754
Queensborough	134, 135
Queenstown	737 to 743
Ramsey	571 to 573
Ramsgate	123 to 125
Rashielee Park	482
Rathlin Island	807
Rathlin-O Birne Island	828
Red Acre Point	232
Castle	813
Rhyl	610
Rhynns of Islay	441
Ribble River	590 to 593
Ridge Shoal	813
Rinrawros Point	827
Roancarrig Island	873
Robin Rigg Channel	543
Roche Point	737
Rock Light	604
Mill	821
Rockabill	783
Roker Pier	233a
Ronaldsha Firth	402
Rosehearty	364
Rosse Bay	820
Rosslare	760, 761
Rothesay	456a
Rotten Island	830
Round Island	3
Royal Sovereign Shoals	102
Ru Stoer	410
Rudha Mhail Point	439
Runa Gal Rock	432
Runcorn	607
Rush, Port	608

	No.
Ryan, Loch	494
Ryde Pier	73
Rye	106, 107
St. Abbs Head	283
Agnes	2
Andrews	333, 334
Anns Head	638
Annes on-Sea	590
Anthony Point	10
Bees	554
Catherine	83
Bay	44
David	310
Heller	47 to 51
Ives	691, 692
John Point	791, 829
Leonards	103a
Mary Port	560 to 562
Monans	320
Nicholas	168
Peter Port	40 to 42
Tudwall	632
Salt End	201
Saltees	757
Sanda	445
Island	402
Sandhaven	363
Saundersfoot	646
Scalp Sand	187
Scalpay	423
Scarborough	218
Scarweather	660
Scattery Island	847
Scilly Isles	1 to 4
Scotland	280 to 503
Scurdy Ness	345
Seaham	231, 232
Seal Sand	226
Sea Reach	136 to 138
Seaton	227
Carew	227
Selker Rocks	575
Selsea Bill	91
Seton, Port	288
Seven Stones	5
Seventh Buoy	225
Sgeir Maoile Rock	438
Shambles	34
Shannon River	845 to 865
Sheerness	133
Shetland Islands	404 to 408
Shillay Island	422
Ship Rock	445
Shipwash	159
Shoreham	95, 96
Sidmouth	30
Silloth	542
Skegness	188
Skelligs	871
Skerries	619
Skerries Bay	781
Skerryvore	429
Skinburness or Cote	540
Skiport, Loch	424
Skulmartin Rock	793
Slag Wall	224
Sleat Sound	414b
Sligo Harbor	831, 832b
Slyne Head	840
Smalls	637
Smiths Knoll	177
Sod Island	851
Solway	543
Souter Point	235
South Arklow	764
Bishop	636
Foreland	117
Gare Breakwater	222
Queensferry	301
Rock	795
Rona Island	411
Sand Head	120
Stack	625, 626

Index to lights in the British Isles—Continued.

	No.
South Uist	425
Walls	396
Southampton	70 to 72
South end Pier	136
Southport	563
Southsea	75
Southwold	162, 162a
Spillane Rock	864
Spilling Rock	854
Spit Bank	738
Sand	76
Spurn Point	193
Light-vessel	192
Stallingborough	197
Stanner Point	591
Start Point	19, 402
Stokes Bay	74
Stonehaven	349
Stoneness	140
Stornoway	418 to 420
Stranraer	495 to 497
Straw Island	842
Strome	412a
Stromness	399
Stronsa Firth	401
Sumburg Head	404
Sunderland	233 to 234a
Sunk	146
Swansea	652 to 657
Swilly, Lough	823 to 825
Swin Middle	144
Tarbert	848
Tarbetness	385
Tay River	335 to 340a
Tayport	337
Tearaght	868
Tees Bay and River	222 to 227
Teignmouth	28
Tenby	645
Termon Pier	837
Thames River	126 to 150
Thorngumbald Clough	200
Thurso Bay	395
Tivell	743
Tongue Sand	129
Torbay	23 to 26
Torquay	25, 26
Tory Island	826
Torry	353
Totland Bay	58
Toward Point	457
Tralee	866, 867
Trevose Head	687
Troon Harbor	486, 487
Trwyn-Du Point	613
Ture	815
Turnberry	493
Tuskar rock	759
Tyne River entrance	236 to 239
Tyree Island	429
Ushinish	425
Usk River	668
Valentia	870
Varne Shoal	110
Ventnor	89a
Verolut Breakwater	44
Victoria Harbor	285
Pier	47, 81
Vincent Pier	218
Walker Dyke	212
Walney Island	576
Warkworth	245
Warner	87
Warren Point	811
Watchet Harbor	679
Waterford Harbor	749 to 756
West Wemyss	317
Western Islands or Hebrides	415 to 430
Westport	839
Weymouth	35, 36
Whelps Rock	887
Whitby	219 to 221
White Castle	814
Whiteford Point	640
Whitehaven	551 to 553
Whitstable	128a
Whitton	209 to 211
Middle	209
Wick	398, 399
Wicklow	768, 769
Wight, Isle of	57, 58, 60 to 62, 89, 89a
Winteringham	205 to 207
Winterton	175
Withernsea	214
Wolf Rock	7
Woodbridge Haven	177
Woodside Ferry	648
Workington	549
Worthing	74
Would	178
Wrath, Cape	409
Wyre River	567
Yarmouth	60 to 62, 170 to 173
Yeoman Spit	594
Youghal	746

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CANADIAN LIGHTS AND FOG SIGNALS.*

[Transmitted by the consul at Charlottetown.]

ABBREVIATIONS AND EXPLANATIONS.

LIGHTS.

F. Fixed, or steady.

Fl. Flashing. Showing five or more flashes or eclipses alternately in a minute.

F. & Fl. Fixed light, with a white or red flash in addition (preceded and followed by a short eclipse) at intervals of 2, 3, or 4 minutes.

Rev. Revolving. Light gradually increasing to full effect and decreasing to eclipse, at equal intervals of 1, 2, or 3 minutes, but occasionally as often as three times a minute.

Int. Intermittent. Suddenly appearing in view, remaining visible for a certain time, and then as suddenly eclipsed for a shorter time.

Alt. Alternating. Red and white light alternately at equal intervals, without any intervening eclipse.

ILLUMINATING APPARATUS.

C. Catoptric, or by metallic reflectors.

D. Dioptric, or by refracting lenses numbered from the first to the sixth order.

The bearings are magnetic, *and are given from seaward.*

The given distances from which the lights are visible are calculated from a height of 15 feet above the sea, the elevation of the lights being in all cases taken as above high water.

The geographical positions of the lights are approximate.

* Issued by the deputy minister of marine, Ottawa, Canada.

List of lights on the coasts, rivers, and

LABRA

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
1	Belle Isle	Straits of Belle Isle, extreme S. point of island.	51 53 0	55 22 15	One	F	White	
2	Belle Isle	About 300 feet lower than main light.	.....	.....	One	F	White	
3	Amour Point	SE. side of Forteau Bay.	51 27 35	56 50 55	One	F	White	
4	Greenly Island	On SW. part of island, Straits of Belle Isle.	51 22 35	57 10 50	One	Rev	Red and white	White, ½ min Red, ½ min White, ½ min Eclipse, 1½ min

NEWFOUND

4a	Cape Bauld	Northernmost point of Newfoundland.	51 38 50	55 25 0	One	Alt.	Red and white.	45 seconds
5	Cape Norman	Straits of Belle Isle.	51 38 0	55 53 40	One	Rev	White	Every 2 min.
6	Point Rich	Straits of Belle Isle.	50 41 50	57 27 40	One	Fl	White	Every 15 sec.
7	Cape Ray	On W. side of cape, 650 feet from the shore.	47 37 0	59 18 0	One	Rev	White	Every 20 sec.
7a	Cape Race	On the Cape	46 39 0	53 4 0	One	Rev	White	30 seconds

GULF OF ST.

8	St. Paul's Island.	On rock off NE. point of island.	47 13 50	60 8 20	One	F	White	
9	St. Paul's Island.	SW. point of island.	47 11 20	60 9 40	One	Rev.	White	Every minute.
10	Bird Rocks	On summit of Great Bird Rock, Magdalen Islands.	47 50 40	61 8 20	One	F	White	
11	Entry Island	On S.E. side of island, Magdalen Islands.	47 16 30	61 41 20	One	F	White	
12	Amherst Island	S. point of island, Magdalen Islands.	47 13 0	61 58 0	One	Alt.	Red and white.	Every 30 sec.

lakes of the Dominion of Canada.

DOR.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
28	White, circular, clapboarded.	470	62	1858	D. 1.	Visible from about NW. by N., round by S. to E. A fog gun is fired once every half hour.	1
17	White, square wood...	128	31	1880	C...	Depot of provisions for shipwrecked mariners.	2
18	White, circular.....	155	109	1855	D. 2.	Fog horn on point, 250 yards W. of light-house, sounds a blast of 8 seconds every minute. If horn becomes disabled, old whistle, 760 yards NW. from horn, will sound similar blasts.	3
15	White, with red lantern, octagonal wooden tower, with dwelling attached. Fog alarm building, white, with red roof, wood.	100	78	1878	C...	Light completes a revolution every 3 minutes. Steam fog horn 100 yards S. of light gives blasts of 10 seconds, with intervals of 50 seconds.	4

LAND.

18	White, square, wood, dwelling attached.	141	60	1884	C...	Sea light, and to indicate entrance to Straits of Belle Isle, visible from all points of approach seaward. A steam fog horn gives a blast of 10 seconds in each minute.	4a
20	White, hexagonal.....	138	40	1871	C...	Visible from all points of approach seaward.	5
18	White, hexagonal.....	130	40	1871	C...	Visible from all points of approach seaward.	6
17	White, octagonal, wood white dwelling and outbuildings, with red roofs near by.	130	75	1871 rebuilt 1885	C...	A steam fog horn at the shore gives a blast of 10 seconds in each minute. Marine telegraph and signal and ice report station.	7
30	Circular, SE. face striped red and white vertically.	180	40	1856	C...	Whistle sounds 10 seconds in every minute.	7a

LAWRENCE.

20	White, octagonal, wood	140	40	1839	D. 2.	Obscured between N. by E. ½ E. and ENE. Not lit from 31st Dec. to 1st April, unless open water is visible.	8
20	White, octagonal, wood	140	40	1831	D. 1.	Obscured on bearings from SSE. to W. ½ N. Not lit from 31st Dec. to 1st April, unless open water is visible. A fog whistle on the S. side of the island, SW. of Atlantic Cove, about ½ mile from the Humane Establishment, sounds for 5 seconds in each minute.	9
17	White, hexagonal, with white dwelling near tower.	133	39	1870 rebuilt 1887	D. 2.	A fog gun is fired every half hour .... Marine telegraph and signal and ice report station.	10
12	White, square, wood, with dwelling attached.	90	28	1874	C...	Light seen from all points, except from ESE. round to N., where it is intercepted by the high lands of the island.	11
20	White, hexagonal.....	107	54	1871	C...	Marine telegraph and signal and ice report station.	12

List of lights on the coasts, rivers, and

GULF OF ST.

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
13	Etang du Nord	W. side of Grindstone Island, Magdalen Islands.	47 23 30	61 57 0	One.....	Rev.	White	Every 1½ min.
14	Carleton Point.	Bay of Chaleur ...	48 5 15	66 7 0	One.....	F...	White	.....
15	Paspebiac.....	330 feet N. from S. extremity of spit.	48 0 54	65 14 20	One.....	F...	White	.....
16	Maquereau Point.	Bay of Chaleur ...	48 12 30	64 46 12	One.....	Alt.	Red and white.	Every minute.
16a	Grand River ..	Mouth of river, coast of Gaspé.	48 24 15	64 28 35	One.....	F...	Red	.....
17	Cape Despair..	Bay of Chaleur ...	48 25 40	64 18 20	One.....	Rev.	White	Every ¼ min..
18	Percé	On Whitehead Cape.	48 30 30	64 13 0	One.....	F...	White	.....
18a	Point Peter....	On Flat Rock or Plateau, off the Point.	48 37 30	64 8 45	One.....	Rev.	Red	30 seconds ...
19	Gaspé.....	O'Hara Point Wharf, Basin.	48 49 53	64 31 41	One.....	F...	Red	.....
20	Gaspé Bay Light-ship.	At Sandy Beach Point, moored off extreme of spit.	48 50 45	64 24 30	Two, red 29, white 37 ft. from deck.	F...	Red and white.	.....
21	Gaspé Cape ...	.....	48 45 15	64 9 15	One.....	F...	Red	.....
22	Cape Rosier...	On Cape	48 51 57	64 12 0	One.....	F...	White	.....
23	Heath Point...	East end, Anticosti Island.	49 5 20	61 42 30	One.....	F...	White	.....
24	Bagot's Bluff..	¾ mile W. from S. point, Anticosti Island.	49 4 0	62 15 10	One.....	Fl..	White	Every 20 sec..
25	South-West Point.	Anticosti Island..	49 23 45	63 35 46	One.....	Rev.	White	Every minute.
26	West Point ...	Extreme W. point, Anticosti Island.	49 52 30	64 31 40	One.....	F...	White	.....
27	Fame Point ...	County of Gaspé, south coast.	49 6 48	64 36 20	One.....	F. & Fl.	White with red flashes.	20 seconds ....
28	Cape Magdalen.	On cape.....	49 15 40	65 19 30	One.....	Alt.	Red and white.	Every 2 min..
29	Martin River..	On S. shore, Gaspé County.	49 13 25	66 9 0	One.....	F...	White	.....
30	Seven Islands.	On Carousel Island.	50 5 40	66 22 44	One.....	F...	White	.....

lakes of the Dominion of Canada—Continued.

LAWRENCE—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
20	White, square	200	28	1874	C ..	A steam fog whistle sounds a blast of 8 seconds duration in every half-minute. Marine telegraph and signal and ice report station.	13
12	White, wood	32	28	1872	C ...	.....	14
12	White, square, wood, with dwelling attached.	50	54	1870	C ...	In running into the harbor the light changes to red, covering the anchorage over an arc of 45° between E. S. E. and SSE.	15
12	White, square, wood ...	56	27	1874	C ...	Marine telegraph and signal station ..	16
8	White, hexagonal, wood, with red iron lantern.	52	43	1885	D ...	.....	16a
15	White, square, wood, with red roof.	90	18	1874	C ...	Marine telegraph and signal station ..	17
13	White, square, wood ...	138	20	1874	C ...	.....	18
10	White, square, wood, dwelling attached.	77	50	1883	C ...	Visible from all points seaward	18a
7	White, with red roof, square, wood.	38	37	.....	C ...	.....	19
....	Painted red, with "Light Vessel" on her side.	.....	.....	1871	C ...	Red on fore and white on main mast ..	20
12	Square, wood, with dwelling attached.	350	30	1873	C ...	A fog gun is fired every half hour	21
16	White, circular, clapboarded.	136	112	1858	D. 1.	A steam fog whistle sounds a blast of 10 seconds every minute. Marine telegraph and signal station.	22
15	White, with a red horizontal band, circular, faced and clapboarded.	110	90	1835	C ...	The light-house is always kept open to the southward of Cormorant Point. Visible between the bearings SW. by W. to E. Depot of provisions here for shipwreck. A fog gun is fired every half hour. Marine telegraph and signal and ice-report station.	23
14	White, with a red vertical stripe, hexagonal.	75	54	1871	C ...	A fog whistle 100 yards E. of light-house sounds for 10 seconds in every minute. Marine telegraph and signal and ice report station.	24
15	White, with two red horizontal bands, circular, clapboarded.	100	75	1831	C ...	Visible between bearings of NNW., round by southward to SE. by E. Marine telegraph and signal and ice report station.	25
15	White, with two red verticals stripes, circular, clapboarded.	112	109	1858	D. 2.	A fog gun is fired every half hour. Marine telegraph and signal and ice report station.	26
20	White, with a black horizontal band, square wood.	200	50	1880	C ...	Marine telegraph and signal station ..	27
*†	White, with a black vertical stripe, hexagonal.	147	54	1871	C ...	Marine telegraph and signal station ..	28
17	White, with two black horizontal bands, square, wood, with dwelling attached.	125	54	1876	C ...	Marine telegraph and signal station ..	29
20	White, with a red horizontal band, square, wood, with dwelling attached.	200	39	1870 re-erected 1875.	C ...	.....	30

* Red 15.

† White 20.

List of lights on the coasts, rivers, and

GULF OF ST.

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
30a	Point Ste. Anne.	11 miles E. from Cape Chatte light.	49 8 20	66 33 30	.....	.....	.....	.....
31	Cape Chatte.*	NE. point of cape.	49 5 55	66 45 29	One.....	Rev	White	Every 30 sec..
32	Egg Island....	200 yards from S. end of island.	49 38 0	67 10 0	One.....	Rev.	White	Every 1½ min.
33	Point des Monts.	About 1½ mile NE. of point.	49 19 35	67 21 55	One.....	F...	White	.....

RIVER ST.

34	Matane	County of Rimouski.	48 52 0	67 33 0	One.....	F ..	White	.....
34a	Matane pier...	End of Government pier.	48 51 50	67 31 35	One.....	F...	White	.....
35	Little Metis Point.	.....	48 41 10	68 2 30	One.....	Alt.	Red and white.	Every minute.
36	Manicouagan . light-ship.	In 25 fathoms of water, 4 miles from land, E. peninsula bearing NE., and W. peninsula WNW.	49 2 0	68 15 0	Two, one 3 ft. higher than the other.	F...	White	.....
37	Father Point..	Rimouski.....	48 37 25	68 27 40	One.....	F...	White	.....
38	Port Neuf.....	Saguenay County.	48 37 0	69 6 0	One.....	F...	White	.....
39	Bicquette Island.	Near center of island.	48 25 18	68 53 20	One.....	Rev.	White	Every 2 min..
40	Red Island light-ship.	In 10 fathoms of water, NE. from island, a little open to N. of Hare Island.	48 6 30	69 30 20	Two, one on fore, other on main m'st	F...	White.	.....
41	Red Islet.....	On center of islet.	48 4 20	69 32 56	One.....	F...	Red...	.....
42	Lark Islet.....	Entrance to Saguenay.	48 5 30	69 40 0	One.....	F...	White.	.....

SAGUENAY

43	1st range.....	On S. side of river, entrance to Chicoutimi Harbor.	48 26 52	70 58 9	Two, 303 yds. apart.	F...	White.	.....
44	2d range	On N. side of river.	48 27 56	70 58 38	Two, 255 yds apart.	F...	White.	.....
45	3d range.....	On N. side of river.	48 27 57	70 59 58	Two, 208 yds. apart.	F...	White	.....

lakes of the Dominion of Canada—Continued.

LAWRENCE—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
....	.....	.....	.....	1881	.....	Fog horn sounds a blast of 8 seconds in every minute.	30a
18	White, with two black vertical stripes, square, wood.	120	26	1871 re-erected 1875.	C...	Visible from all points of approach seaward. Marine telegraph and signal station.	31
15	White, with a red vertical stripe, octagonal, surmounting dwelling.	70	35	1871	C...	.....	32
15	White, with two red horizontal bands, circular, clapboarded.	100	75	1830	C...	A fog gun is fired every half hour.... Marine telegraph and signal station.	33

LAWRENCE.

14	White, with a black cross, square, wood, with dwelling attached.	76	39	1873 moved 1883.	C...	Marine telegraph and signal station..	34
7	Lantern on a mast with shed at base, painted white.	30	20	1885	D...	Guide into Matane River	34a
15	White, square, with red roof, and dwelling attached.	56	40	1874	C...	Marine telegraph and signal station..	35
*12	Painted red, with "Manicouagan light-ship" in white on each side.	24 27	.....	1872	D...	A fog whistle sounds a blast of 8 seconds' duration, with an interval of 8 seconds, and then a blast of 8 seconds, with an interval of 2 minutes and 20 seconds.	36
10	White, with a black horizontal band, square.	43	52	1859	C...	Pilots stationed here and gun answers steamers' signals for pilots in foggy weather. Marine telegraph and signal station.	37
15	White, with two red vertical stripes, square, wood.	40	27	1873	C...	Marine telegraph and signal station..	38
17	White, circular, clapboarded.	112	65	1844	C...	A fog gun is fired every half hour....	39
12	Red, with words "Red Island Light-ship" on each side.	34 22	....	1871	C D	A red buoy lies about ¼ mile WSW. from vessel. A steam fog whistle on the light-ship sounds 10 seconds in every minute.	40
12	Gray, stone, circular...	75	51	1848	C...	.....	41
10	White, square, wood...	35	29	1872	C...	A fog trumpet at light stations sounds a blast of 20 seconds in every minute.	42

RIVER.

5	.....	Up. 40 L. 26	43 26	1873	C...	These ten lights lead through the channel to Chicoutimi Harbor.	43
4	.....	Up. 41 L. 25	40 27	1873	C...		44
3	.....	Up. 41 L. 29	40 25	1873	C...		45

*Each.

List of lights on the coasts, rivers, and

SAGUENAY

No.	Name of light.	Place.	Latitude. North. ° ′ ″	Longitude. West. ° ′ ″	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
46	4th range.....	On N. side of river	48 27 41	71 0 39	Two, 238 yds. apart.	F...	White.	.....
47	5th range.....	On S. side of river.	48 26 27	71 1 32	Two, 128 yds. apart.	F...	White	.....
48	Chicoutimi Wharf.	.....	.....	.....	One.....	F...	White.	.....

RIVER ST.

49	Green island ..	On N. point of island.	48 3 17	69 26 10	One.....	F...	White.	.....
49a	White island reef, gas buoy.	In 8 fathoms to E. of Red Can buoy on N. reef of Hare Island.	47 58 45	69 37 35	One.....	F...	White.	.....
49b	Barrett ledge, gas buoy.	In 2½ fathoms on E. end of Barret ledges.	47 53 15	69 37 0	One.....	F...	White.	.....
49c	Rivière du Loup.	On end of Government wharf.	47 51 5	69 34 25	One.....	F...	White.	.....
50	Brandy Pots ..	84 yards from SE. end of islet.	47 52 30	69 40 50	One.....	F...	White.	.....
50a	Pilgrim Shoal, gas buoy.	On W. end in 4 fathoms.	47 46 20	69 43 55	One.....	F...	White.	.....
51	Long Pilgrims	40 yards W. of center of island, and 108 yards S. from water's edge.	47 43 15	69 44 20	One.....	F...	White.	.....
52	Grand Isle, Kamouraska.	240 yards from NE. end of island, 160 yards from water's edge.	47 38 20	69 51 40	One.....	Rev.	White.	Greatest brilliancy once a minute.
52a	Cap à L'Aigle	On outer end of pier.	.....	.....	One.....	F...	White.	.....
52b	Murray Bay ..	On outer end of pier.	.....	.....	One.....	F...	White.	.....
53	Point aux Origneaux.	On a wharf, River Ouelle.	47 29 36	70 1 43	One.....	F...	White	.....
54	Goose Cape or Cap aux Oies	Charlevoix County	47 29 30	70 13 45	One.....	F...	White	.....
54a	Les Éboulements.	On outer end of pier.	.....	.....	One.....	F...	White	.....
54b	Isle aux Condres.	On outer end of pier.	.....	.....	One.....	F...	White	.....
55	Bay St. Paul ..	On wharf in middle of the bay.	47 24 45	70 29 0	One.....	F...	White	.....
56	Lower Traverse lightship.	NE. of St. Roch Shoals.	47 22 10	70 14 50	Two, one light 9 ft. higher than the other.	F...	White	.....
57	Upper Traverse lightship.	NW. end of St. Roch Shoal.	47 19 50	70 16 0	Two white and one red. Red light 6 ft. higher than the others.	F...	White and red.	.....

lakes of the Dominion of Canada—Continued.

RIVER—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
3	.....	Up. 40 / L. 42	40 / 26	1873	C...	These ten lights lead through the channel to Chicoutimi Harbor.	46
2½	.....	Up. 59 / L. 40	27 / 26	1873	C...		47
....	.....	.....	.....	.....	.....	.....	48

LAWRENCE.

13	White, octagonal, clap-boarded.	60	40	1809	C...	A fog gun is fired every half hour....	49
8	Buoy painted red.....	14	.....	1886	Gas.	Light cannot be depended upon; a bell on the buoy is rung by the motion of the waves. From the buoy Brandy Pots light bears SW. ¼ S. 6½ miles. Cacouna beacon SE. ¾ S. 6½ miles.	49a
8	Buoy checkered white and black.	14	.....	1886	Gas.	Light cannot be depended upon; a bell on the buoy is rung by the motion of the waves. From the buoy Brandy Pots light bears W. ¾ N. 2¾ miles. Métis and Rivière du Loup lights SSE. 2¾ miles.	49b
11	White, square, wood...	38	36	1882	D...	Marine telegraph and signal station.	49c
10	Drab color, brick	78	39	1862	D, 4	Marine telegraph and signal station.	50
8	Buoy painted black....	10	.....	1886	Gas.	Light cannot be depended upon. From buoy Long Pilgrim light bears SW. by S. ½ S., distant 3 miles.	50a
12	Drab color, brick	180	39	1862	D, 4.	.....	51
18	Wood.....	166	39	1862	C...	.....	52
....	Lantern on a mast.....	.....	.....	1882	D...	.....	52a
....	Lantern on a mast.....	.....	.....	1882	D...	.....	52b
8	White, square, wood...	34	20	1875	C...	.....	53
12	White, wood, with dwelling attached.	48	42	1876	D...	.....	54
....	Lantern on a mast.....	.....	.....	1882	D...	.....	54a
....	Lantern on a mast.....	.....	.....	1882	D...	.....	54b
10	White, square, wood, dwelling attached.	36	30	1876	C...	.....	55
*10	Temporary vessel, white, with words "Lower Traverse" in black letters on each side.	35 / 36	.....	1836	D...	The ball will be lowered, and one light only shown, if from any cause the light-ship moves from her station. A hand fog-whistle on light-ship answers signals from vessels.	56
*6	Red, with words "Upper Traverse" in white letters on each side. Two masts with red ball on main mast.	41 / 36	.....	1871	C...	Should the vessel be out of place, the light on the foremast alone will be exhibited, and the ball will be taken down. A bell tolls during thick weather, fogs, and snow storms.	57

*Each.

List of lights on the coasts, rivers, and

RIVER ST.

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
58	Stone Pillar...	100 yards from S. point of islet.	47 12 25	70 21 26	One.....	Rev.	White	Every 1½ min.
59	Algernon Rock	In channel SE. of Stone Pillar.	47 12 25	70 21 26	One.	F...	White	.....
60	Crane Island..	Near extremity of pier, 1½ mile from W. point of island.	47 3 0	70 32 25	One.....	F...	White	.....
60a	St. Thomas de Montmagny	At outer end of Government Wharf.	46 59 30	78 33 20	One.....	F...	White and green	.....
61		On slope of Cape, above Cap Rouge.	47 6 35	70 43 20	One.....	F...	White	.....
62	Montée du Lac or Cap Brulé	Front range light, 60 ft. N. 16° W. from main light	.....	.....	One.....	F...	White	.....
62a		Back range light, 330 ft. N. 33° E. from front light	.....	.....	One.....	F...	White	.....
63	St. Francis	E. end, Island of Orleans.	47 0 12 47 0 24	70 45 19 70 44 51	Two	F...	White	.....
64	Bellechasse ...	E. end of Island ..	46 56 0	70 46 0	One.....	F...	White	.....
65	Point St. John.	On a wharf, Island of Orleans.	46 55 20	70 53 30	One.....	F...	White	.....
66	Point St. Lawrence.	Island of Orleans.	46 51 50	71 2 40	One.....	F...	White	.....
66a	Orleans Channel. Ste. Famille, front range.	On beach near stone mill south side of channel.	46 58 0	70 58 55	One.....	F...	White	.....
66b	Ste. Famille, back range.	2,671 ft. N. 70° E. from front light, on top of hill and about ¼ mile SW. from church.	.....	.....	One.....	F...	White	.....
66c	St. Pierre, fr'nt range.	On beach on south side of channel, on point at narrowest part.	46 55 47	71 2 32	One.....	F...	White	.....
66d	St. Pierre, back range.	539 feet S. 59° W. from front light, in low field.	.....	.....	One.....	F...	White	.....
66e	L'Ange Gardien, fr'nt range.	On beach on point below Montmorenci Falls and L'Ange Gardien Village.	46 53 50	71 7 50	One.....	F...	White	.....
66f	L'Ange Gardien, back range.	1,420 ft. N. 44° S. from front light, on hillside.	.....	.....	One.....	F...	White	.....
67	St. Antoine....	S. shore.....	46 39 40	71 36 10	One.....	F...	White	.....
68	St. Croix	On shore, near high water mark, and ¼ mile N. of church.	46 37 45	71 44 10	One.....	F...	White	.....
69	Port Neuf.....	On N. shore, ¾ mile off the river.	46 41 48	71 52 10	Two, SW. and NE., nearly 180 yards apart.	F...	White	.....
70	Platon Point..	On S. side, 1½ miles below Richelieu Island.	46 39 13	71 53 3	Two S. 72° W., 169 yds apart	F...	White	.....
71	Richelieu	Center of island...	46 38 30	71 54 51	One.....	F...	White	.....
72	Lotbinière	Upper	46 37 10	61 56 21	Two, 1,300 yds. apart	F...	White	.....

lakes of the Dominion of Canada—Continued

LAWRENCE—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
13	Gray, circular, stone, and white buildings with red roof near by	83	52	1843	C...	.....	58
6	White, square, wood, on pier.	.....	.....	1878	D, 6.	Rock covers at half flood.....	59
12	White, octagonal, wood	47	48	1862 rebuilt 1885.	C...	.....	60
6	Lantern on mast, brown shed at base.	30	25	Built 1883.	D...	White in line of channel, green from all other points of approach. A guide to enter harbor only.	60a
15	White, square, wood, with dwelling near by.	175	34	1870	C...	Coast light.....	61
15	Open-framed tower	165	24	1875	C...	Range lights. Lead between Traverse Spit and Brulé Bank.	62
15	Open-framed tower	185	34	1875	C...	.....	62a
11	White, square, wood...	110 30	30 28	1875	C...	North Channel Traverse Range Lights	63
13	White, square, wood...	70	30	1862	C ...	.....	64
15	White, square, wood...	27	23	1874	C...	.....	65
8	White, wood.....	38	40	1869	C...	.....	66
12	Mast, with white shed at base.	50	50	1885	D.	These two in one lead through best water clear of all obstructions from intersection with St. Pierre range off Batture des Islets to intersection with L'Ange Gardien range off Pointe au Pavillon black buoy.	66a
16	White, with red roof, square, wood.	110	21	1885	C.		66b
9	White, with red roof, square, wood.	20	23	1885	C.	These two in one lead clear of all obstructions from midchannel opposite Ste. Famille wharf to intersection with Ste. Famille range.	66c
12	Mast, with white shed at base.	50	50	1885	D.		66d
9	White, with red roof, square, wood.	20	23	1885	C.	These two in one lead clear off all obstruction from intersection with Ste. Famille range to junction of Orleans Channel with ship channel opposite W. point, Island of Orleans.	66e
12	White, with red roof, square, wood.	33	21	1885	C.		66f
10	White, square, wood...	96	27	1858	C...	.....	67
6	White, square, wood...	30	20	1842	C...	A small light to assist in keeping in channel for some distance up and down the river.	68
*5	White, both stone, the lower lantern on roof of dwelling.	200 120	26 30	1842	C...	Lead up Richelieu Channel to the light on Richelieu Island.	69
*12	White, octa gonal wood.	152 130	24 7	1816 1824	C...	Lead up Richelieu Rapids.....	70
10	Octagonal stone.	27	35	1816	C...	This light and the lights on Platon Point are very nearly in the same line of bearing, viz, N. 73° E.	71
8	White, square, wood...	Up. 85 L. 23	17 17	.....	C...	To enable vessels to go through Richelieu Channel.	72

* Each.

List of lights on the coasts, rivers, and

RIVER ST.

No.	Name of light.	Place.	Latitude. North.	Longitude. West.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			° ′ ″	° ′ ″				
73	Langlais Point	On S. shore, a mile below Great Chêne River.	46 35 5	71 59 35	One.....	F...	White	.....
74	Ste. Emélie	On S. shore, a mile above village.	.....	.....	.....	.....	.....	.....
75	Cape Charles..	On Cape.....	46 33 39	72 4 15	Two, N. 67° W., 80 yds. apart	F...	White	.....
76	Grondines...	On flats, N. shore, about 1½ miles above church.	46 35 49	72 4 12	One.....	F...	White	.....
77		In village, 1,350 yards ENE. from front light.	.....	.....	One.....	F...	White	.....
78	St. Pierre des Becquets.	S. shore, summit of St. Pierre Point.	46 30 28	72 12 30	One.....	F...	White	.....
79	Batiscan	N. shore, 1¼ miles below Batiscan Church, about 600 feet from shore.	46 30 35	72 15 0	One.....	F...	White	.....
80		2,050 feet W. by S. ½ S. from front light.	.....	.....	One.....	F...	White	.....
81	Citrouille Point	On beach	46 27 12	72 16 10	One.....	F...	White	.....
82	Champlain ..	300 yards above village church.	46 26 26	72 20 55	One.....	F...	White	.....
83		750 feet NE. ½ E. from front light.	.....	.....	One.....	F...	White	.....
84	Cape Madeleine.	Lower lights, N. shore, 3 miles below cape.	46 23 46 S. light	72 27 18	Two, S. 60° W., 250 yds. apart.	F...	White	.....
85		Upper lights, N. shore, 2 miles below cape.	46 23 16 W. light	72 28 28	Two, S. 85° W., 285 yds. apart.	F...	White	.....
86	Port St. Francis.	On a pier near wharf.	46 16 17	72 37 16	One.....	F...	White	.....
87		On pier, E. by N. ½ N., 550 feet from front light.	.....	.....	One.....	F...	White	.....
88	Point du Lac .	N. shore	46 16 50	72 40 22	One.....	F...	White	.....
89	Lake St. Peter. East lightship.	In lake	46 15 55	72 42 15	One.....	F...	White	.....
90	Center lightship.	2½ miles SSE. from Rivière du Loup.	46 11 26	72 54 12	One.....	F...	White	.....
91	West lightship.	N. side of channel, NE. by N., 3 miles from Flat Island.	46 9 37	72 56 54	One.....	F...	White	.....
91a	St. Francis River.	Outer light, at lower end of low grassy islet lying off mouth of river.	46 7 45	72 56 0	One.....	F...	White	.....
		Inner light, at abrupt turn in channel, about ½ mile SS. easterly from outer one.	.....	.....	One.....	F...	Red...	.....
92	Isle Aux Raisins.	On island	46 6 14	72 57 50	One.....	F...	White	.....
		S. side of island..	46 6 0	72 58 0	One.....	F...	White	.....

lakes of the Dominion of Canada—Continued.

LAWRENCE—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
5	Wood	85	8	1844	C...	To show off Battures des Grondines, and to avoid Battures Gordin, and as a steering point for Richelieu. N. B.—It is intended to change some of the lights between this and Montreal (No. 110) to suit the new 25-foot dredged channel.	73
....	.....	.....	.....	.....	.....	Range lights, to be put in operation when new channel is completed.	74
*4	Wood	110	20	1856	C...	Lead between Cape à la Roche and Cape Charles, and answer as a steering point through Richelieu Channel.	75
5	White, square, wood	25	*25	1857	C.	.....	76
5	White, octagonal, wood	60	40	1857	C.	To lead off Cape à la Roche.....	77
5	White, octagonal, wood	85	40	1844	C...	To indicate the widest berth off Cape à la Roche.	78
4	White, octagonal, wood	20	18				79
4	White, octagonal, wood	42	36	1844 moved 1879	C..	To lead through Levraut and clear Batture St. Ann on S., and Pouillier on N.	80
6	Lantern on a pole	.....	.....	.....	.....	To indicate point	81
6	White, square, wood	34	23	1844 moved 1879	C.	To guide through Becancour Traverse.	82
6	Temporarily on pole	60	.....	1878	D.		83
*4	White, octagonal, wood	53 33	13 10	1843	C...	To clear Batture Bigot	84
*6	White, octagonal, wood	55 35	30 10	1843	C...	To clear Pouillier Provencher	85
4	White, octagonal, wood	14	18	1849	C.	The lights lead up through the dredged channel past Batture à Fer.	86
4	White, octagonal lantern, on square open frame.	31	21	1849	C.		87
12	White, octagonal, wood	71	24	1843	C...	Shows the turn of channel at Point du Lac.	88
6	Red	15	8	.....	C...	Removed at the approach of winter on account of ice. On S. side of Petite Traverse of Rivière du Loup.	89
6	Red	15	8	1816	C...	Removed at the approach of winter. To indicate the turn of the channel, and lead to No. 2.	90
6	Red	15	8	1828	C...	In connection with Isle à la Pierre, and bearing in line with No. 1, and to avoid Battures St. François and à la Carpe.	91
4	Lantern on a mast, standing in the water.	12	13	1883	D.	On starboard side of channel, for convenience of vessels entering river. To be removed in autumn, and replaced when water becomes low in summer. Movable, to suit shifting sand banks.	91a
6 13	Red Red	30	20	1843 1863	C ..	To lead from the entrance of the Batture of Lake St. Peter to No. 1 light vessel, up and down.	92

*Each.

List of lights on the coasts, rivers, and

RIVER ST.

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
93	Stone Island or Isle à la Pierre.	On E. side of island	46 5 54	72 50 40	One.....	F...	White	.....
94	Isle de Grace..	On island.....	46 4 13	73 2 34	One..... ..	F...	White	.....
95	Sorel.....	On Richelieu Company's wharf.	46 2 30	73 7 18	Two, 66 yds. apart.	F...	Red...	.....

RICHELIEU

96	North of Halfway Point.	On W. bank of river, about 5 miles above St. John's.	45 13 20	73 14 0	One	F...	White.	.....
		N. 17° E., 813 feet from range tower.	.....	.....	One	F...	White.	.....
97	St. Valentine ..	W. side of river, ½ mile below Isle aux Noix.	.....	.....	Two, one on bank of river E. of back light.	F...	White.	.....
98	Lacolle.....	W. side of river...	.....	.....	Two, one on crib on bank of river, NE. of back light.	F...	White.	.....
99	Ash Island....	On S. end.....	45 3 0	73 19 0	One	F...	White.	.....
100	Bloody Island.	On pier, about ¾ mile above Ash Island.	45 2 15	73 19 20	One	F...	White.	.....

RIVER ST.

101	Lavaltrie....	On Shore line, SE. side of island.	45 53 15	73 15 50	One	F...	White.	.....
		960 feet SW. ½ S. from front light.	.....	.....	One	F...	White.	.....
102	Traverse	2½ miles above Contrecœur.	45 49 52 N. light.	73 17 0	Two, S. 28, W., 1,500 yds. apart	F...	White.	.....
103	Isle aux Prunes	Opposite Verchères.	45 46 50	73 22 30	One	F...	White.	.....
104	Répentigny ...	¾ mile below Répentigny.	45 45 2 N. light.	73 26 8	Two, S. 22° W., 170 yds. apart	F...	White.	.....
105	Isle à la Bague.	On islet.....	45 44 14	73 26 15	One	F...	White.	.....
106	Isle St. Thérèse Lower Range.	On NE. side of island.	45 41 22 N. light.	73 27 40	Two, S. 55° W., 220 yds. apart	F...	White.	.....

lakes of the Dominion of Canada—Continued.

LAWRENCE—Continued.

Miles seen in clear weather.	Color, or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
12	White, octagonal, wooden tower, with annex on pier.	45	36	1867	C		93
6	White, octagonal wood.	28	25	.....	C		94
3	Brown, open frames ...	31 39	37 29	1863 rebuilt 1881	C	Lead into Richelieu River	95

RIVER.

9	White, irregular octagonal wooden tower, on small pier.	22	18	1878	C	These lights in range up the river indicate the channel to St. Valentine.	96
11	White, square, wood, on posts, partly hidden by woods.	38	34	1873 moved 1885	C		
....	White, octagonal, wood.	.....	.....	1873	C	These lights range across the river, and, in line, indicate the channel over the shoal at the foot of Isle aux Noix.	97
....	White, octagonal, wood.	18 7	22 10	1871	C	These lights range down the river, and, in line, indicate the channel to Sturgeon Point.	98
4	White, square, wood, with dwelling attached.	44	42	Re-erected 1875	C		
4	White, wood.....	12	10	1875 re-erected 1884	C	These two lights form a range	99 100

LAWRENCE—Continued.

8	Red lantern on small pier.	17	13	1831	C	Range lights leading through Flat Islands Channel.	101
10	White, with sides facing up and down channel, red; open-framed octagonal tower on small pier.	33	32	1831 rebuilt 1881	C	Buildings removed in winter.	
11 13	White, square, wood...	53 67	13 41	1857	C	To lead into Lavaltrie Channel and Isle Bouchard, and indicate the new channel to be kept in line till Lavaltrie lights are brought to bear.	102
10	White, octagonal, wood.	33	32	1866 rebuilt 1882	C	To clear the island	103
*4	White, wood.....	30 14	26 14	1843	C	To lead through Isle à la Bague, Channel, and to avoid Pouillier on N. and shoal on S.	104
4	White, octagonal, wood.	24	18	1831	C	To indicate the island, which is extremely low. Removed in winter on account of ice.	105
*4	White, square, wood ..	42 49	36 22	1885	C	Lead from Cape St. Michel.....	106

*Each.

List of lights on the coasts, rivers, and

RIVER ST.

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
107	Isle St. Thérèse, Upper Range.	On cribwork block, below river bank, on S. shore of Island.	45 40 37	73 27 20	One.....	F...	White	.....
108		About 5,000 feet SW., ¾ S. from back light, on Ile aux Vaches.	.....	.....	One.....	F...	White	.....
109	Point aux Trembles.	N. shore	45 38 26 E. light.	73 29 20	Two, S. 40° W., 600 yds. apart.	F...	White	.....

LAKE MEM

111	Witch Shoal ..	About ½ mile SW. from Magog Railway Wharf.	.....	.....	One.....	F...	White	.....
112	Black Point...	On W. side of lake, 3 miles SW. from Witch Shoal.	.....	.....	One.....	F...	White	.....
113	Wadleigh's Point.	On W. side of lake, 4 miles SW. ½ S. from Black Point.	.....	.....	One.....	F...	White	.....
114	Chateau de Silva.	At hotel wharf, W. side of lake, 5 miles SW. by S. ½ W. from Wadleigh's Point.	.....	.....	One.....	F...	White	.....
115	Molson's Island.	SW. point of island, E. side of lake, 2 miles SE. by S. from Chateau.	.....	.....	One.....	F...	White	.....
116	Lead Mines ...	West side of lake, 4 miles S. by W. from Molson's Island.	.....	.....	One.....	F...	White	.....

RIVER ST. LAWRENCE—

117	Lachine.....	On end of pier, at entrance to canal.	45 26 0	73 41 0	One.....	F...	White	.....
118	Lake St. Louis light-ships.	Light-ship No. 1, ½ mile above Lachine.	45 26 30	73 42 10	One.....	F...	White	.....
119		Light-ship No. 2, 2¾ miles above Lachine.	45 25 40	73 44 15	One.....	F...	White	.....
120	Chateauguay light-ship.	Light-ship No. 3, 4½ miles above Lachine.	45 24 30	73 45 30	One.....	F...	White	.....
121	Beauharnois ..	S. side of lower entrance to canal.	45 18 50	73 54 0	Two, 414 yds apart ENE. ¾ N. and WSW. ¾ S.	F...	White	.....

lakes of the Dominion of Canada—Continued.

LAWRENCE—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
6	White, with red stripe, square, wood, on pier.	57	42	1879 moved 1884	C ...	In range lead through dredged channel off Pointe aux Trembles.	107
6	White, with red stripe, hexagonal, wood, on pier.	29	28	1879 moved 1884	C ...	.....	108
4	High and low, white, with red stripe, octagonal, wood.	53 / 25	56 / 23	1846	C ...	To lead through the channel between Pointe aux Trembles and Varennes up to Pong Point. N. B.—It is intended to change some of the lights between this and Ste. Emelie (No. 74) to suit the new 25-foot dredged channel.	109

PHREMAGOG.

9	White, square, wood, on pier rising out of the water.	19	21	1878 building 1881	D ...	Visible from all points of approach, except from the westward.	111
8	White, square, wood...	24	22	1878	C ...	.....	112
8	White, square, wood ...	30	22	1878	C ...	.....	113
8	White, square, wood ...	30	22	1878	C ...	.....	114
8	White, square, wood ...	28	22	1878	C ...	.....	115
8	White, square, wood ...	20	22	1878	C ...	.....	116

ABOVE MONTREAL.

6	White, square, wood ...	23	17	1849	C ...	.....	117
6	Red hull, with white, circular iron tower, lantern roof black.	18	.....	1849	C ...	.....	118
6	Red hull, with circular iron tower, lantern roof red.	20	.....	.....	C ...	.....	119
6	Red hull, with white, circular iron tower, lantern roof red.	26	.....	1849	C ...	.....	120
10	White, square, wood ...	50 / 40	27 / 27	1850	C ...	In one lead to Chateauguay light-ship	121

List of lights on the coasts, rivers, and

RIVER

No.	Name of light.	Place.	Latitude North. ° ′ ″	Longitude West. ° ′ ″	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
122	Dorval.....	On a pier N. of channel, between Point Claire light and light-ship No. 1.	45 26 18	73 45 30	One	F...	White	.....
123	Point Claire...	On a pier N. of channel, about 1 mile SE. of village.	45 25 15	73 48 15	One	F...	White	.....
124	Caron's Point.	Two miles below St. Anne Lock, N. side of river.	45 24 46	73 54 41	One	F...	White	.....
125	Isle Perrot....	On small pier on shore line, S. side of new channel below St. Anne.	45 24 20	73 54 40	One	F...	White	.....
126	St. Anne de Bellevue.	On pier at SE. end of new channel cribwork.	45 24 15	73 55 50	One	F...	White	.....
127		On NW. end of new channel cribwork, about ¼ mile below the lock.	45 24 30	73 56 5	One	F...	White	.....
128	Point à Cadieux.	Lake of Two Mountains.	45 26 25	74 0 50	One	F...	White	.....
129	Point aux Anglais.	On pier about 400 yards off the point.	45 13 0	74 15 0	One	F...	White	.....
130	Ste. Placide ...	N. side of river...	45 20 0	74 10 0	Two front light 266 yds. SW. by W. ½ W. from back light.	F...	White	.....
131	L'Orignal	On point.....	45 38 30	74 40 0	One	F...	White	.....
132	McTavish Point.	On pier, on extremity of point.	45 39 15	74 50 0	One	F...	White	.....
133	Way Shoal....	On low shore, N. side of river.	45 32 0	75 28 45	One	F...	White	.....
134	Green Shoal...	On pier, S. side of channel, opposite East Templeton, 7 miles below Ottawa City.	45 29 30	75 34 20	One	F...	White	.....
134a	Lake Des Chênes.	At Britannia, S. side of river.	.....	.....	One	F...	White	.....
134b	Aylmer Island.	In Lake des Chênes, 1½ mile W. of Aylmer village, Ottawa Co., P.Q.	.....	.....	One.....	F...	White	.....
134c	Baskin's wharf (front).	At the inner end o Baskin's wharf, Lake des Chênes, Carleton Co., about 12 miles above Aylmer.	.....	.....	One.....	F...	White	.....
134d	Baskin's wharf (back).	About ¼ mile easterly from front light.	.....	.....	One.....	F...	White	.....

lakes of the Dominion of Canada—Continued.

OTTAWA.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
11	White, square, wood, with dwelling attached. Iron lantern, red.	37	31	1874 rebuilt 1887	D...		122
10	White, square, wood, with dwelling attached. Iron lantern, red.	32	33	1860 rebuilt 1887	D...		123
4	White, square, wood...	28	29	1874 rebuilt 1878	C...		124
9	Lantern on mast, with brown shed at base.	23	20	1878 rebuilt 1883	D...	For guiding vessels over from Caron's Point clear of the foot of the middle ground.	125
10	White, square, wood...	24	24	1878	C...	These lights guide through the new dredged channel below St. Anne lock.	126
10	White, square, wood...	24	24	1878	C...		127
8	White, square, wood, with dwelling attached.	30	32	1875	C...		128
6	White, square, wood ..	22	27	1873	C...		129
6	Brown, square, wood...	50 25	28 20	1874	C...	Range lights, showing up stream	130
6	White, open framed, square, wooden tower.	45	30	1871	C...		131
10	Mast, with day beacon affixed, and shed at base, all white.	30	20	1871 changed 1886	D..		132
8	Sides alternately red, white, hexagonal, wood.	30	25	1870	C...		133
8	White, square, wood...	36	17	1860	C...		134
....	White, square, wood ..	.....	.....	1872	C...		134a
12	Lantern on mast, with brown shed at base.	47	20	1883	D...		134b
....	Lantern on mast, with white shed at base.	26	20	1883	D.	These two lights, in range, lead through the deepest channel over Constance Shoal.	134c
11	Lantern on mast, with white shed at base.	39	25	1883	D.		134d

List of lights on the coasts, rivers, and

RIVER OTTA

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
134e	Buckom's Point.	Lake des Chênes, on sand beach at point, Carleton Co., about 16 miles above Aylmer.	.....	.....	One.....	F...	White	.....
135	Morris or Victoria Island.	Lake des Chats, at the head of the Chats Rapids.	.....	.....	One.....	F...	White	.....
135a	Arnprior Island.	On an islet in Lake des Chats, opposite the town of Arnprior.	.....	.....	One.....	F...	White	.....
136	Campbell Island.	Lake des Chats, 12 miles above Victoria Island, and 3½ above Sand Point.	.....	.....	One.....	F...	White	.....
136a	Coulonge Lake	On point on N. side, ½ mile above old Fort Coulonge.	.....	.....	One.....	F...	White	.....
136b	Lower Allumette Lake.	On head of Spence's Island, opposite lot 18, E. range, of Allumette Island.	.....	.....	One.....	F...	White	.....
136c	Morrison's or Hawley's Island.	About 3 miles below Pembroke.	.....	.....	One.....	F...	White	.....
136d	Lower Narrows.	On pier, N. side of channel.	.....	.....	One.....	F...	White	.....
136e	Fort William .	On outer end of wharf.	.....	.....	One.....	F...	White	.....
137	Deep River Islet.	At mouth of Deep River.	.....	.....	One.....	F...	White	.....
137a	McQuestion's Point.	On S. shore of Deep River, Renfrew, N. R., about 22 miles above Pembroke.	.....	.....	One.....	F...	White	.....

RIVER ST.

138	Lake St. Francis.	Knight's Point.	1st range light, S. side of channel, about 1½ miles from guard lock, at upper entrance to Beauharnois Canal.	45 15 30	74 9 30	One.....	F...	White	.....
139			2d range light, on mainland, 93 yards SW. of 1st range.	.....	.....	One.....	F...	White	.....
140		Knight's Point.	3d range light, S. side of channel, 396 yards NW. of second light.	.....	.....	One.....	F...	White	.....
141		Grosse Point or Valleyfield.	Main light, N. side of channel, on a pier, 304 yards W. of 3d light.	45 15 35	74 9 25	One.....	F...	White	.....
142		Cotteau Landing.	On Government pier.	45 15 40	74 13 0	One.....	F...	Red...	.....

lakes of the Dominion of Canada—Continued.

WA—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Light in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
10	Lantern on mast, with brown shed at base.	81	25	1883	D ..	To indicate the low point, and the shoals off it.	134a
8	White, square, wood, with red lantern.	.....	29	1873	C ...	.....	135
10	Mast, with white shed at base, on square pier.	30	20	1885	D...	.....	135a
8	White, square, wood ...	.....	29	1873	C ...	.....	136
10	Mast, with white shed at base.	30	29	1885	D...	.....	136a
9	Mast, with white shed at base.	24	20	1885	D...	.....	136b
10	Lantern on mast, with brown shed at base.	32	22	1873	D...	To show the entrance to the Allumette Rapids boom.	136c
....	.....	.....	.....	1887	D...	.....	136d
....	.....	.....	.....	1887	D...	.....	136e
8	White, square, wood ...	.....	29	1873	C ...	.....	137
9	Lantern on mast, with brown shed at base.	26	22	1883	D...	.....	137a

LAWRENCE—Continued.

3	White, square, wood, on pier.	13	12	1848	C .	When these two lights are brought in one, after leaving the canal, they are to be steered for until the two on the north side of the channel are brought into one.	138
3	Red, square, wood, on a pier.	19	18	1850	C .		139
3	White, square, wood, on pier.	12	12	1850	C.		140
11	White, square, wood...	38	30	1848 rebuilt 1882.	C .	These two lights passed close to and kept in line lead to deep water in Lake St. Francis.	141
10	White, square, wood...	29	28	1848 tower erected 1877.	C ...	Visible from ENE. ½ E. by southward to W. ½ N.	142

List of lights on the coasts, rivers, and

RIVER ST.

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
143	Lake St. Francis—Continued. McKies Point.	N. shore, nearly opposite Port Lewis light.	45 12 25	74 19 10	One.....	F...	White	.....
144	Port Lewis	On McKillop's Point.	45 11 30	74 10 0	One.....	F...	White	.....
145	Cherry Island.	S. side of N. channel.	45 8 0	74 22 0	One.....	F...	White	.....
146	Lancaster Bar.	On a pier in the lake, S. side of channel, 3 miles below Lancaster village.	45 8 20	74 25 40	One.....	F...	White	.....
147	Lancaster.	On a pier, N. side of channel, 1½ miles SW. from Lancaster village.	45 5 20	74 30 0	One.....	F...	White	.....
148	Hamilton Island.	Most southeasterly point.	45 4 28	74 32 27	One.....	F...	White	.....
149	Glengary or Stonehouse Point.	N. shore of river.	45 3 32	74 36 45	One.....	F...	White	.....
150	Cornwall Canal	S. side of upper entrance.	45 1 0	74 55 25	One.....	F...	White	.....
151	Windmill Point	About 1½ miles below Prescott.	44 46 20	75 28 40	One.....	F...	White	.....
152	Cole Shoal	On pier, 5 miles W. of Brockville, ¾ mile from N. shore.	45 34 15	75 45 40	One.....	F...	White	.....
153	Grenadier Island.	SW. point of island, N. side of channel, 2 miles below Rockport.	44 24 30	75 54 10	One.....	F...	White	.....
154	Lindoe Island .	NW. point of island, S. side of channel, 5 miles W. of Rockport.	44 22 35	76 0 3	One.....	F...	White	.....
155	Gananoque Narrows.	NE. end of Little Stave Island, S. side of channel, 5 miles below Gananoque.	44 20 55	76 4 35	One.....	F...	White	.....
156	Jackstraw Shoal.	N. side of channel, 2 miles below Gananoque.	44 20 55	76 6 55	One.....	F...	White	.....
157	Spectacle Shoal	N. side of channel, ¼ mile W. Gananoque.	44 4 10	76 10 40	One.....	F...	White	.....
158	Red Horse Rock.	SE. side of channel, 1 mile above Spectacle Shoal.	44 19 30	76 11 20	One.....	F...	White	.....
159	Burnt Island.	SE. part of island, N. side of channel, ¾ mile above Red Horse Rock	44 19 0	76 11 35	One.....	F...	White	.....
160	Wolfe Island..	On Quebec or E. point.	44 14 37	76 10 55	One.....	F...	White	.....
161	Brown's or Knapp's Point.	Wolfe Island.....	44 15 12	76 23 20	One.....	F...	White	.....

lakes of the Dominion of Canada—Continued.

LAWRENCE—Continued.

Miles seen in clear weather.	Color, or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
10	White, square, wood...	36	30	1847 rebuilt 1877.	C...	Midway between Cotteau Landing and Cherry Island.	143
10	White, square, wood...	35	22	1875	C...		144
11	White, hexagonal wood, with lantern, roof red.	40	41	1847 rebuilt 1883.	D, 6.		145
8	White, square, wood...	.....	.....	1879	C...		146
10	White, hexagonal wood, lantern red.	33	30	1844 rebuilt 1886	D...		147
10	White, square, wood...	42	36	1873	C...		148
10	White, square, wood, with dwelling attached.	42	36	1873	C...		149
....	.....	.....	.....	1865	C...	In charge of the department of railways and canals.	150
15	White, circular, stone..	92	62	1873	C...		151
6	White, square, wood...	33	31	1856	C...		152
10	White, square, wood...	55	37	1856	C...		153
7	White, square, wood...	40	26	1856	C...		154
7	White, square, wood...	44	37	1856	C...		155
10	White, square, wood, on a pier in river.	34	29	1856	C...	A small pier surmounted by a red drum on a mast, 700 feet SE. ½ E. from the light, marks the S. edge of the channel.	156
9	White, square, wood, on a pier in river.	28	26	1856	C...		157
9	White, square, wood, on a pier at head of an island.	28	26	1856	C...		158
10	White, square, wood...	64	26	1856	C...		159
6	White, square, wood...	.....	.....	1861	C...		160
10	White, square, wood...	28	20	1874	C...		161

List of lights on the coasts, rivers, and

LAKE

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
162	Kingston.....	City clock.....	44 15 15	76 28 30	One.....	F...	White	.....
163	Snake Island..	On pier on bar, N. side of channel, 5 miles W. of Kingston.	44 11 30	76 37 40	One.....	F...	Red...	.....
164	Nine Mile or Gage Point.	SW. Point, Simcoe Island, 9 miles W. of Kingston.	44 9 20	76 38 40	One.....	F...	White	.....
165	Pigeon Island.	4 miles from head of Wolfe Island.	44 4 10	76 38 10	One.....	Rev.	White	One minute and 10 seconds.
166	Outer Drake or False Ducks.	E. point of island .	43 57 0	76 49 0	One.....	F...	White	.....
167	South Bay Point.	On Point Traverse	44 56 25	76 52 10	One.....	F...	Red...	.....
168	Point Pleasant	Entrance to Bay of Quinté.	44 6 30	76 55 30	One.....	F...	White	.....
168a	Deseronto.....	On the railway wharf.	44 11 15	77 2 0	One.....	F...	White	.....
169	Telegraph Island.	Bay of Quinté	44 10 20	77 9 45	One.....	F...	White	.....
169a	Belleville	On SE. edge of shoal at entrance of harbor, 450 feet W. from end of Grand Junction Railway Wharf.	44 9 0	77 22 40	One.....	F...	White	.....
170	Point Peter ...	On point.....	43 51 0	77 13 40	One	Rev.	White	35 seconds ....
171	Salmon or Wicked Point.	On point.....	43 52 0	77 19 45	One.....	F...	Red...	.....
172	Scotch Bonnet or Egg Island.	On small island, 1 mile SW. of Nicholson's Island.	43 54 0	77 38 0	One.....	F...	White	.....
173	Presque Isle.	E. point	43 59 30	77 45 30	One.....	F...	White	.....
174		Salt Point.....	44 0 20	77 46 0	One.....	F...	White	.....
175		On pier near edge of Calf Pasture Shoal. S. side of harbor, 3,525 feet N. 62° W. from Salt Point light.	44 0 22	77 41 5	One.....	F...	White	.....
		Near W. end of Quinté Carrying Place.	44 2 0	77 40 40	One.....	F...	White	.....
176	Weller's Bay	Front range light, 520 feet SW. by W. 3 W. from back light.	.....	.....	One.....	F...	Red	.....
177	Cobourg.....	On east pier	43 57 10	78 14 0	One.....	F...	White	.....
		On east pier head, S. by W. W. 380 ft. outside of corporation light.	.....	.....	One.....	F...	White	.....
177a		On west pier inside of breach.	43 56 55	78 9 10	One.....	F...	Red	.....
178	Peter Rock or Gull Island.	W. by S., 4 miles from Cobourg.	43 56 10	78 17 0	One.....	F...	White	.....
179	Port Hope	Pier head, E. side .	43 56 15	78 20 0	One.....	F...	Red and white.	.....
180	Darlington	Pier head.....	43 52 30	78 43 20	One.....	F...	White	.....

lakes of the Dominion of Canada—Continued.

ONTARIO.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
9	Wooden tower on stone building.	.....	26	.....	Gas.	.....	162
6	Square stone dwelling attached.	35	35	1858	C...	.....	163
12	White, circular, stone..	45	40	1833	C...	A fog bell sounds four times each minute.	164
12	White	46	41	1870	C...	.....	165
13	White	68	62	1828	D, 3.	.....	166
10	White, square, wood, with dwelling attached.	36	36	1884	C...	.....	167
10½	Octagonal.....	.....	52	1866	C...	.....	168
11	Square tower on roof of freight shed.	44	46	1885	D...	Lit by gas. Will guide by Deseronto from Belleville, Picton and Napanee.	168a
12	White, square tower on dwelling.	46	41	1870	C...	.....	169
11	White, square, wood, on octagonal pier.	38	36	1881	D, 6.	.....	169a
13	White, circular, stone..	62	60	1883	C...	.....	170
8	White, square tower on dwelling.	40	30	1871	C...	.....	171
12	White, stone.....	51	54	1856	C...	.....	172
						.....	173
13	White, octagonal, stone	67	63	1840	C...	Calf Pasture light, in range with Salt Point light, leads to the dredged entrance to the harbor, and kept clear of it to the north, leads through the new channel into the harbor.	174
4	White, square, wood...	22	27	1851	C...		
10	White, square, wood, on octagonal pier.	29	30	1879	C...		175
....	White, square, open framework wood.	43	37	1876	C...	In range guide through entrance to bay.	176
....	White, square, wood...	29	27	1876	C...		
8	White, square, wood...	20	16	1844	Gas.	Maintained by town corporation	177
....	Lantern on a mast.....	.....	.....	1886	D...		
6	Lantern on a mast.....	26	20	1883 moved 1887	D...	Visible from all points seaward.....	177a
10	Octagonal, stone.....	45	48	1840	C...	On a rock off the point.....	178
4	.....	.....	.....	.....	.....	Red to S, white to E. and W ..... Not under marine department.	179
4	On a stone house	.....	.....	.....	.....	Not under marine department.....	180

Lists of lights on the coasts, rivers, and

LAKE

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
181	Oshawa	Pier head	43 52 0	78 52 30	One	F	White	
182	Whitby	W. pier	43 51 0	79 1 30	One	F	White	
183	Frenchman's Bay or Pickering.	E. pier head	43 48 45	79 1 55	One	F	Green	
184	Gibraltar Point	SW. side of Point, 1¾ mile S. of Toronto.	43 37 0	79 22 40	One	Rev	White	45 seconds
185	Toronto	Front range 37 ft. from W. end of Queen's Wharf.	43 38 10	79 23 45	One	F	White	
		Back range on extension shoreward of wharf, 200 ft. NE. by N. ½ N. from front one.			One	F	Red	
186	Port Credit	At outer end of N. breakwater pier.	43 33 30	79 35 0	One	F	White	
187	Oakville	On outer end of E. pier.	43 36 20	79 39 0	One	F	White	
188	Burlington Bay.	S. pier of entrance.	43 18 0	79 53 30	Two	F	White	
189	Port Dalhousie.	On east pier, 339 feet from outer end.	43 13 40	79 20 30	One	Rev.	White	Every minute.
190		On end of east pier, 315 feet S. ¼ W. from main light.			One	F	White	
190*a*	Niagara fog bell.	On north rampart of Fort Mississagua.	43 15 44	79 4 45				

LAKE

191	Fox Island		44 19 30	79 30 0	One	F	White	

LAKE

191*a*	Gravenhurst Narrows.	On SE. point of Denison's Island, Lake Muskoka.	44 58 20	79 22 25	One	F	White	

lakes of the Dominion of Canada—Continued.

ONTARIO—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
....	.....	.....	.....	1863	.....	Not under marine department	181
5	Square, wood	12	8	1844	.....	Not under marine department	182
10	White, octagonal, wood	51	47	1863 repaired 1880	C...	.....	183
18	White, hexagonal stone. Keeper's dwelling near. Fog-whistle building of wood, white, with brown roof	66	62	1820	C...	A fog horn operated by compressed air sounds blasts of 7 seconds duration with intervals of 90 seconds; established 1886; 1,150 feet SW. by S. from the light-house.	184
9	White, hexagonal, wood	23	23	1856	D.	Visible over an arc of 180°, maintained by Toronto harbor commissioners. Fog bell rung by hand, attached to tower.	185
8	Red, octagonal, wood ..	37	35	1838	D.	Visible over an arc of 180°, maintained by Toronto harbor commissioners. The two lights in range lead clear of the point of bar.	
11	White, square, wood...	37	36	1863 building 1842	D, 6	Visible from all points of approach...	186
12	Lantern on a pole	28	.....	1863 changed 1886	D...	Tower and pier destroyed by gale in spring of 1886; light temporarily shown from a lantern on a pole.	187
15	High light, stone building.	60	54	1888	C ..	.....	188
4	White, small light, wood.	18	14	1845			
12	White, circular, wood..	53	44	1852	C .	Shows from E. to W. by S..... Entrance to Welland Canal from Lake Ontario.	189
11	White, square, wood...	40	38	1879	C.	One lamp shows N. ¼ E. one NW., and one SW., or up the harbor. N. B.—These are ranges for ascertaining compass errors at this port Particulars can be obtained at canal office.	190
....	Square, wood, drab, with red, pitched roof.	.....	.....	.....	.....	A fog bell strikes once in every 15 seconds.	190a

SIMCOE.

12	Brown, square, wood...	46	39	1870	C ...	.....	191

MUSKOKA.

10	Lantern on a mast, with brown shed at base.	28	25	1884	D ..	.....	191a

List of lights on the coasts, rivers, and

LAKE

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
192	Port Colborne main light.	Lake Erie entrance to Welland Canal, W. pier head.	42 52 35	79 16 0	One	F...	White	
193	Port Colborne back range light.	E. side of entrance, on crib, 2,030 feet N. by E. ½ E. from main light.	.....	.....	One	F...	Red ..	
194	Mohawk Island.	Between Port Colborne and Port Maitland, 1 mile SW. of mainland.	42 50 10	79 37 0	One	Rev.	White	Every 3 min..
195	Port Maitland.	W. pier	42 50 40	79 39 50	One	F...	White	
196	Port Dover...	W. pier	42 47 30	80 16 30	One	F...	White	
197	Long Point, or North Foreland.	E. extremity	42 33 0	80 9 10	One	Rev.	White	Every minute.
198	West end of Long Point.	E. side of new channel.	42 35 0	80 28 42	One	Rev.	Red ..	Every minute.
199	Port Burwell or Big Otter Creek.	333 yards inshore.	42 39 0	80 54 30	One	F...	White.	
200	Port Bruce or Catfish Creek.	.....	42 39 20	81 5 40	One	F...	White.	
201	Port Stanley...	W. pier	42 39 55	81 12 40	One	F ..	White	
202	Rondeau Harbor.	Main on S. end and range light on N. end of E. pier, at entrance to harbor.	42 15 35	81 54 25	Two, 260 yards apart.	Rev. F...	Red and white. White.	Every 1½ min..
203	Pelee Spit	On caisson, 2½ miles S. from extreme end of Pelee	51 52 20	82 38 0	One	Rev.	White.	
204	Pelee Island...	NE. point	41 50 20	82 45 30	One	F...	White.	
205	Middle Island..	Between Pelee and Kelly's Island.	41 40 58	82 40 15	One	F...	Red ..	
206	Leamington ...	On shore near pier.	42 1 45	82 35 35	One	F...	White.	
		On outer end of E. breakwater pier.	42 1 37	82 43 57	One	F...	Red ..	
206a	Kingsville ...	On shore at head of pier N. ¾ W., 1,020 feet from front light.	.....	.....	One	F...	White.	
207	Colchester Reef.	Near southeastern edge of reef.	41 56 0	82 53 35	One	F...	White.	

lakes of the Dominion of Canada—Continued.

ERIE.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
14	White, square, open wooden frame, iron lantern, red.	70	60	1852	C...	The two lights, in range, give deepest water to entrance of canal, clear of Sugar Loaf Reef. In entering, main light must be passed on port. Back one on starboard side. Main light visible from all points seaward; back one in line of range and into harbor.	192
8	White, square, wood, on pier 12 feet high.	35	27	1878 moved 1887	C...	Fog horn sounds blasts of 11 seconds every 1½ minutes. A vertically striped red and white beacon, surmounted by a globe, stands on outermost crib of east pier.	193
10	White, circular, stone..	64	60	1848	C...	.....	194
10	White, open frame, wood.	51	41	1846 rebuilt 1875	C...	Grand River entrance	195
8	White, hexagonal, wood	20	20	1846	C...	.....	196
13	Octagonal, wood	65	60	1843	C...	.....	197
12	White, square, wood, dwelling attached.	52	56	1879	C...	Visible from all points seaward. When lifeboat is required, the light will be obscured towards Port Rowan.	198
15	Octagonal wood	90	46	1840	C...	.....	199
..	On a pole	.....	.....	1876	C...	Not under Marine Department.....	200
11	White, square wood.	42	35	1841 rebuilt 1882	C...	Visible from all points seaward.....	201
16	White, square, open framework.	70	64	1876	C.	.....	202
10	White, square, open framework.	34	30	1876	C.		
15	White octagonal, wood.	70	61	1861	C...	.....	203
9	White, circular, stone.	45	40	1833	C...	W. by N. clears Pelee Shoal.....	204
12	White, square, wood..	70	49	1872	C...	.....	205
12	White, square, wood..	48	37	1880	C...	.....	206
5	Lantern on a pole....	27	.....	1886	....	Range lights, the outer one being left on the right hand or starboard side in entering. Visible from all points of approach.	206a
....	In window of dwelling house.	45	.....	1886	....		
14	White, hexagonal, wooden tower, lantern red, on a circular stone pier.	72	60	1885	D. 3	Visible all round horizon. A fog bell rung by machinery gives one stroke every 15 seconds.	207

List of lights on the coasts, rivers, and

RIVER

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
209	Amherstburg.	Bois Blanc Island.	42 6 0	83 13 30	One.....	F...	White	.....
210	Bois Blanc Island.	Front light, on N. E. point.	42 6 1	83 6 34	One.....	F...	White.	.....
211		Back light, 150 yards S. by W. ½ W. from front light.	.....	.....	One.....	F...	White.	.....
211a	Lime Kiln Crossing.	.....	.....	.....	.....	.....	.....	.....

LAKE

212	Thames River.	Mouth of river, S. shore.	42 18 40	82 36 0	One.....	F...	White	.....
213		Range light, 300 feet NW. ½ N. from main one.	.....	.....	One.....	F...	White	.....

LAKE HURON, GEORGIAN

214	Goderich....	On high bank, S. of entrance to harbor.	43 45 10	81 32 30	One.....	F...	White	.....
215		Front range light, on N. pier.	.....	.....	One.....	F...	Red...	.....
		Back light, on N. pier, 1,209 feet E. by S. from front one.	.....	.....	One.....	F...	Green.	.....
216	Point Clark...	About 20 miles N. from Goderich.	44 4 40	81 34 30	One.....	Rev.	White	Every ½ min.
217	Kincardine..	On N. pier, 1,185 feet W. by N. ¾ N. from main light.	.....	.....	One.....	F...	Red...	.....
218		In the town, on hillside.	44 10 15	81 37 20	One.....	Alt.	White and red	Every 20 sec.
218a	Port Elgin....	On outer end of Government wharf.	.....	.....	One.....	F...	White	.....
219	Chantry Island.	About 2½ miles W. from Saugeen.	44 29 15	81 22 20	One.....	F...	White	.....
220		On E. end of W. breakwater NE. by E. 933 yards from Chantry Island light.	44 30 5	81 22 50	Two, back light 2,100 yds S. ¾ E from the front one.	F..	Red to N. white in harbor.	.....
221	Southampton Harbor.	Back light on shore S. of landing pier.	.....	.....	.....	F..	White	.....
221a	Saugeen	On breakwater, on N. side of mouth of river.	44 30 12	81 21 45	One.....	F...	Green.	.....
221b	Lyal Island	On W. side of island.	44 57 0	81 24 5	One.....	Rev.	White	15 seconds....
222	Isle of Coves..	N. point of Cove Island, entrance to Georgian Bay.	45 19 40	81 44 9	One.....	Rev.	White	Every 7 sec..

lakes of the Dominion of Canada—Continued.

DETROIT.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
14	Circular, stone	56	40	1837 renewed 1880	C ...	.....	209
3	White, square, open frame.	26	19	1871	C .	Range to lead through Lime Kiln Crossing channel. Pending completion of improvements by U. S. in main channel, these lights will lead through a channel clear of obstruction.	210
3	White, square, open frame.	38	29	1875	C .		211
....	.....	.....	.....	.....	.....	Range lights to be erected to lead through excavated channel.	211a

ST. CLAIR.

12	White, circular, stone..	55	59	1837	.....	These two lights, in one, lead over bar.	212
6	Red, open frame, square, wood.	22	23	1845	....	.....	213

BAY, AND NORTH CHANNEL.

18	White, square, stone, with dwelling attached.	150	20	1847	C ...	.....	214
5	White, square, open frame	45	33	.....	C .	These lights, in range, lead to head or breakwater.	
5	White, square, wood ...	34	21	Rebuilt 1880	C .	.....	215
15	White, circular, stone..	87	97	1859	D. 2.	.....	216
8	White, square, wood...	37	20	1874	C ...	Front light, visible in direction of range.	217
14	Fawn color octagonal, wood, dwelling attached, on high stone foundation.	76	63	1881	C...	Back range and lake coast light, visible from all points seaward. The two in line lead somewhat to the northward of the head of the N. pier.	218
....	Lantern on a pole from corner of a shed.	.....	.....	1884	D...	.....	218a
15	White, circular, stone..	86	86	1859	D. 2.	.....	219
7	Front tower, white, square.	29	25	1877	C...	These lights in range lead to opening in breakwater at N. end of harbor. The depth of water in channel, reported about 14 feet, is not sufficien to make navigation safe in stormy weather.	220
10	White, square, wood...	34	28	1877	C...	.....	221
7	Lantern on mast, with brown shed at base, standing on crib.	30	20	1883	D...	To guide fishing boats into Saugeen River.	221a
12	White, square, wood, dwelling attached.	51	57	1885	C...	Coast light and guide to Stoke's Bay, and small boat harbor close by.	221b
15	White, circular, stone.	90	85	1859	D. 2..	A fog horn operated by compressed air, located westward of the light, gives blasts of 10 seconds duration, with intervals of 110 seconds.	222

List of lights on the coasts, rivers, and

LAKE HURON, GEORGIAN

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
223	Michael's Point.	S. side of Grand Manitoulin.	45 34 20	81 56 0	One.....	F...	White	.....
224	Great Duck Island.	On SW. point of island.	45 37 12	82 56 10	One.....	Rev.	Red and white	One red and two white flashes every 7 minutes. Greatest brilliancy every 40 sec.
225	Missisaagua Straits.	On SW. point of W. end of Great Manitoulin Island.	45 53 10	83 6 20	One.....	F...	White	.....
225a	Tobermory.....	Water's edge, W. side of entrance.	45 15 35	81 40 25	One.....	F...	Red...	.....
226	Griffith Island..	NE. end of island, 20 miles from Owen Sound.	44 50 30	80 42 40	One.....	F...	White	.....
227	McKenzie's Wharf.	Presqu 'Isle, Owen Sound, Georgian Bay.	44 41 30	80 53 40	One	F...	White	.....
227a	Owen Sound.	On block on starboard side of dredged channel, about 300 yards outside end of W. pilework embankment at mouth of river.	44 34 35	80 55 40	One	F...	Red ..	.....
		On W. pilework, 1,520 feet S. W. ½ S. from front light.	.....	.....	One	F...	White	.....
228	Meaford	On outer end of pier.	44 36 50	80 23 55	One	F...	White	....
228a	Thornbury....	On outer end of W. breakwater pier.	44 34 0	80 26 5	One	F...	Red ..	.....
229	Nottawasaga Island.	About 2½ miles N. W. from Collingwood.	44 32 30	80 4 20	One	Rev.	White	Every ¼ min..
230	Collingwood ..	Breakwater pier ..	44 31 0	80 2 10	One	F...	Red ..	.....
230a	Collingwood ..	At turn of dredged channel in harbor.	44 30 40	80 12 45	One	F...	Red ..	.....
231	Christian Island.	SE. end, 2 miles from mainland.	44 47 20	79 57 30	One	F...	White	.....
231a	Hope Island ..	On NE. point of island.	44 55 10	80 8 5	One	Rev.	White	One minute...
232	Gin Rock.....	Gloucester Bay...	44 51 30	79 51 30	One	F...	White	.....
232a	Whisky Island.	Entrance to Penetanguishene Harbor.	44 49 0	79 53 20	One	F...	White	.....
233	Penetanguishene.	On block at outer end of Reformatory Pier.	44 48 30	79 54 15	One	F...	White	.....
234	Parry Sound ..	On Red Rock	45 21 40	80 23 5	One	F...	White	....
235	Byng Inlet....	On Gereaux Island.	45 45 40	80 37 20	One	F...	White	.....

lakes of the Dominion of Canada—Continued.

BAY, AND NORTH CHANNEL—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
13	White, square, wood...	40	28	1870	C...	.....	223
15	White, square, wood, with dwelling attached.	64	54	1877	C...	.....	224
13	White, square, wood ..	46	28	1873	C...	For guiding vessels through Mississaga Straits for either entrance. Fog horn at light station sounds a blast 10 seconds in every minute.	225
8	White, hexagonal, wood, red iron lantern.	40	43	1885	D...	.....	225a
17	White, circular, stone..	130	85	1859	D. 3.	.....	226
12	White, square, wood ..	35	27	.....	C...	.....	227
6	White, with vertical red stripe facing channel, square, wood, small tower on pier.	22	21	Rebuilt 1883	D...	In range lead to dredged channel at mouth of river, and are left on starboard hand in entering harbor. N. B.—There are ranges for ascertaining compass errors at this port. Particulars can be obtained from harbor master.	227a
11	White, with vertical red stripe, facing channel, square, wood.	39	34	Rebuilt 1883	D...		
13	White, square, wood ...	42	35	1878	C...	.....	228
7	Mast with drab shed at base.	32	25	1887	D...	.....	228a
17	White, circular, stone..	86	85	1859	D, 2.	.....	229
8	On framework.....	41	.....	1858	C...	.....	230
2	Mast, with white shed at base, on crib.	23	20	1884	D...	Only required to show in harbor.....	230a
15	White, circular.....	61	60	1859	D, 4.	.....	231
12	White, square, wood, with dwelling attached.	54	57	1884	C...	Shows all around, except when intercepted by trees on island.	231a
10	White, square, wood ...	44	36	1875	C...	For guiding vessels into Penetanguishene and Midland Harbors.	232
11	White, square, wood,..	36	30	1882	D, 6.	To point out the islands and shoals adjacent.	232a
8	White, square, wood...	20	18	1876	C...	.....	233
13	White, octagonal, wood on pier.	63	44	1870 removed 1881	C...	The channel up to the harbor is marked by buoys and day beacons.	234
12	White, square, wood, dwelling attached.	49	48	1870 removed 1885	C...	.....	235

List of lights on the coasts, rivers, and

LAKE HURON, GEORGIAN

No.	Name of light.	Place.	Latitude. North.	Longitude. West.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			° ′ ″	° ′ ″				
236	Bustard Rocks.	On a rocky islet, near entrance to French River.	45 53 30	80 55 5	One	F...	White	.....
237		77 yards NE. ¼ E. from the last described.	.....	.....	One	F...	White	.....
238	French River	On Lefroy Island, W. side of mouth of river.	.....	.....	One	F...	White	.....
239		Near the creek, E. side of river, N. E. by N. ½ mile from Lefroy Island Light.	.....	.....	One	F...	Red	.....
240	Lonely Island	.....	45 34 24	81 28 14	One	F...	White	.....
241	Killarney east or Red Rock Point.	One mile E. of Killarney.	45 58 4	81 29 28	One	F...	White	.....
241a	Killarney front	.....	.....	.....	.....	.....	.....	.....
241b	Killarney back	.....	.....	.....	.....	.....	.....	.....
242	Killarney west or Partridge Island.	One mile NW. of Killarney.	45 58 57	81 32 5	One	F...	White	.....
242a	Manitowaning	On the hill in the village.	45 44 42	81 48 27	One	F...	White	.....
243	Strawberry Island.	North ernmost point.	45 58 23	81 51 25	One	F...	White	.....
244	Little current.	North light	45 59 05	81 55 47	Two	F...	White	.....
245	Clapperton Island.	N. point	46 3 13	82 14 24	One	F...	White	.....
246	Gore Bay	Or Janet Cove, W. entrance point.	45 56 40	82 19 35	One	F...	White	.....
246a	Cape Robert	On the northern extremity of the Cape.	45 59 35	82 47 35	One	F...	White	.....
246b	Spanish River Mills.	On islet about 2 miles SE. from mills.	46 7 30	82 19 10	One	F...	Red	.....
246c	Mississagua Island.	On S. end of island.	46 6 45	82 59 30	One	Rev	White	.....
247	Sulphur Island	W. end of Island	46 9 0	82 30 0	One	F...	White	.....
248	Thessalon River.	E. side of mouth of river.	46 15 5	83 32 45	One	F...	White	.....
248a	North Sister Rock.	N. side of entrance.	46 17 55	83 54 0	One	F...	White	.....
248b	Head of Wilson's Channel	On an islet, N. side of channel.	46 18 47	83 58 30	One	F...	White	.....
248c	Shoal Point	On an islet, S. side of channel.	46 18 30	84 3 35	One	F...	White	.....

LAKE

248d	South East Bay.	On S. side of entrance.	46 7 35	79 22 40	One	F...	White	.....
248e	South River	On point near tannery on W. side of mouth.	46 3 40	79 32 30	One	F...	White	.....

lakes of the Dominion of Canada—Continued.

BAY, AND NORTH CHANNEL—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
11	White, square, wood, open framework.	36	25	1875	C...	These two range lights should be kept in line bearing SW. ¼ W. until the two range lights in the river are brought into line bearing NE. by N.	236
6	Red, square, wood, open framework.	26	15				237
6	White, square, wood open framework.	16	10				238
6	White, square, wood, open framework.	30	27	1886	C...		239
20	White, square, wood, dwelling attached.	195	42	1870	C...		240
11	White, square, wood...	42	20	1866	D...	At N. side of channel, leading into Killarney harbor from the eastward.	241
....	.....	.....	.....	.....	.....	Range lights to be built.....	241a
....	.....	.....	.....	.....	.....	Range lights to be built.....	241b
10	White, square, wood...	30	20	1866	C...	.....	242
14	White, square, wood... iron lantern red.	80	38	1885	D...	.....	242a
11	White, square, wood... dwelling attached.	40	44	1881	C...	.....	243
6	White, square, wood...	24 22	....	1866	C...	Range lights.....	244
10	White, square, wood...	30	35	1866	C..	.....	245
11	White, square. w ood, dwelling attached.	43	40	1879	D, 6	Visible from all points seaward	246
12	White, square, wood, dwelling attached.	46	41	1885	D...	.....	246a
6	White, square, wood...	41	39	1885	D...	.....	246b
12	White, square, wood, dwelling attached.	53	50	1884	C...	Visible except where obscured by trees on northerly bearings.	246c
12	White, square, wood...	45	20	1867	C...	.....	247
7	White, square, wood...	11	12	.....	C...	.....	248
11	White, hexagonal, wood on a pier.	35	30	1885	D...	.....	248a
10	White, square, wood, dwelling attached.	32	34	1885	D...	.....	248b
11	Whith, square, wood, dwelling attached.	37	34	1885	D...	.....	248c

NIPISSING.

10	White, with red roof, square, wood, on crib-work pier.	30	21	1887	D...	.....	248d
10	Lantern on a mast with white shed at base.	28	25	1887	D...	To guide to mouth of river, past shoals that extend N. and E. from mouth.	248e

List of lights on the coasts, rivers, and

LAKE

No.	Name of light.	Place.	Latitude. North. ° ′ ″	Longitude. West. ° ′ ″	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
249	Point aux Pins	St. Mary's River, near the Sault.	46 28 30	84 40 50	One.....	F...	White	.....
250	Corbay Point	Batchewana Bay .	46 54 0	83 50 30	One.....	F...	White	.....
250a	Caribou Island	On a small island SW. side of Caribou Island.	47 20 0	85 49 0	One.....	Rev.	White	10 seconds....
251	Michipicoten Island.	S. point.....	47 42 15	86 1 35	One.....	F...	White	.....
252	Agate Island..	In Quebec Harbor, near Michipicoten Island Harbor.	47 42 50	86 2 10	One.....	F..	White	.....
253	Battle Island..	Entrance to Nipigon Bay.	48 45 26	87 46 13	One.....	Alt.	Red and white.	Greatest brilliancy every 1½ minute.
254	Lamb Island ..	Western entrance to Nipigon Bay.	48 36 25	88 22 15	One.....	F...	White	.....
255	Porphyry Point	Entrance to Black Bay, Edward Island, Algoma.	48 21 5	88 51 30	One.....	F...	White	.....
256	Thunder Cape.	Entrance to Thunder Bay.	48 18 30	89 10 0	One.....	Rev.	White	1 minute.....
257	Kaministiquia.	On N. shore of river, near Fort William.	48 23 37	89 26 47	One.....	F...	White	.....
258		879 feet ENE. from above.	.....	.....	One.....	F...	White	.....
258a	Port Arthur ..	On cribwork block, 31 feet from W. end of breakwater.	48 25 40	89 12 40	One.....	F...	White	.....
258b	Victoria Island	On the westernmost point of the island.	48 5 0	89 21 20	One.....	F...	White	.....

LAKE OF

258c	Rainy River ..	On N. side of mouth	45 50 45	94 40 20	One.....	F...	Red ..	.....

NEW BRUNS

GULF OF ST

259	Campbellton Range Lights.	Pier beside railway wharf, Restigouche River.	48 0 50	66 39 40	One.....	F...	White	.....
260		On Moffatt's Wharf.	.....		One.....	F...	White	.....
261	Oak Point...	Restigouche River, front light.	48 2 40	66 36 30	One.....	F...	White	.....
262		Back light.....	.....		One.....	F...	White	.....

lakes of the Dominion of Canada—Continued.

SUPERIOR.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
8	White, square, wood ...	30	23	1873	C ...	.....	249
16	White, octagonal, wood with dwelling attached.	77	63	1873	C ...	.....	250
15	White, octagonal, wood red lantern, dwelling attached. Fog alarm building white with brown roof.	76	80	1886	C ...	Fog horn 100 feet S. of light; sounds blasts of 5 seconds duration, with intervals of 25 seconds.	250a
15	White, square, wood...	56	32	1872	C ...	A fog bell here	251
10	White, square, wood...	32	20	1872	C ...	.....	252
18	White, square, wood...	105	36	1877	C ...	.....	253
17	White, square, wood, dwelling attached.	90	46	1877	C ...	.....	254
14	White, square, wood...	56	36	1873	C ...	.....	255
12	White, square, wood, dwelling attached. Fog alarm building white with brown roof.	45	28	1874	C ...	Fog horn sounds blasts of 5 seconds duration with intervals of 25 seconds.	256
10	White, square, wood, dwelling attached.	30	30	1873 rebuilt 1876	C ...	These two lights in one lead through the dredged channel at mouth of river.	257
8	Open frame.....	20	20	1873	C ...	.....	258
11	White, square, wood...	43	36	1882 moved 1887	C ...	.....	258a
15	White, square, wood, with red iron lantern, white wooden building on low ground, S. and W. of light.	89	30	1881 buildings erected 1887	D...	.....	258b

THE WOODS.

8	White, square, wood...	35	33	1886	D...	.....	258c

WICK.

LAWRENCE.

9	White, square, wood...	24	2	1879	C ...	.....	259
9	White, square, wood ..	24	22	1879	C ...	.....	260
11	White, square, wood...	40	22	1879	C ...	In range guide across to Traverse.	261
12	White, square, wood...	45	22	1879	C ...		262

List of lights on the coasts, rivers, and

NEW BRUNS

GULF OF ST.

No.	Name of light.	Place.	Latitude. North.	Longitude. West.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			° ′ ″	° ′ ″				
263	Dalhousie Front Range Light.	On wharf at railway terminus, 29 ft from outer end and 33 ft. from front edge.	48 4 25	66 22 25	One	F...	White	
264	Dalhousie Back Range Light.	On summit of Montgomery Island, 296 feet SE. ¾ E. from front light.			One	F...	White	
264a	Douglas Island or Dalhousie Island.	On E. end of island.	48 4 25	66 21 30	One	F...	White	
265	Dalhousie	S. side of entrance to harbor.	48 3 45	66 20 50	One	F...	White	
266	Heron Island	Chaleur Bay	48 0 0	66 8 0	One	F...	White	
266a	Little Belledune.	On the point	47 55 20	65 53 20	One	F...	White	
267	Petit-Rocher	On Elm Tree Point	47 48 39	65 43 13	One	F...	White	
268	Bathurst	On Caron's Point	47 39 10	65 36 40	One One	F... F...	White Red	
268a	Clifton	At head of pier	47 45 30	65 21 0	One	F...	Red	
269	Caraquet	On island, Bay of Chaleur.	47 49 05	64 54 0	One	F...	White	
270	Pokesudie	NE. point of island.	47 49 10	64 44 40	One	F...	White	
270a	Harper's Point	At western entrance to Little Shippegan.	47 54 0		One	F...	White	
270b	Miscou Gully	On N. side of E. entrance to Little Shippegan.	47 55 5	64 29 30	One	F...	White	
271	Goose Lake	W. side of Miscou Island.	47 55 43	64 35 40	One	Rev.	White	Every minute.
272	Shippegan	On Alexander Point, NE. of entrance to Gully.	47 43 30	64 39 25	One	F...	White	
273	Miscou Island	Birch Point	48 1 0	64 29 25	One	F...	Red	
274	Pokemouche	On beach, N. side of gully.	47 40 10	64 46 0	One	F...	Green	
275		270 feet S. by W. ¾ W. from main light.			One	F...	Red	
276	North Tracadie	One on N. side of gully, the other outside of bar.	47 33 14	64 51 35	Two	F...	White	
277	South Tracadie	N. side of gully	47 30 0	64 52 10	One	F...	White	
278		Back light, 166 yards N. from front light.			One	F...	Red	
279	Tabusintac	Crab Island	47 18 51	64 59 30	One	F...	Red	
280	Neguac	On NE. side of gully.	47 17 47	65 3 20	One	F...	White	

lakes of the Dominion of Canada—Continued.

WICK—Continued.

LAWRENCE—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
9	Square, white lantern projecting through roof of railway wooden freight shed.	30	34	1875	D small size.	Visible in line of range, and to the ENE. These two in range lead to the railway wharf clear of all shoals.	263
9	White, square, wood...	34	22	1879	C...	Visible in line of range	264
6	White, square, wood. .	30	22	1886	C...	Visible easterly and N. westerly.....	264a
13	White, square, wood...	49	33	1870	D...	Seen from all points of approach.....	265
15	White, square, wood...	66	20	1875	C...	Visible from all points seaward.....	266
11	Mast with white shed at base.	38	28	1884	D...	.....	266a
12	White, square, wood...	36	31	1879	C...	.....	267
10	White, wood	33	43	1871	C...		
14	Red and white striped, square, wood.	43	.....	1871 rebuilt 1878	C...	Range lights, to guide vessels into the harbor.	268
15	White, square, wood...	88	37	1885	D...	.....	268a
14	White, square tower on dwelling.	49	43	1870	D...	.....	269
11	White, square, wood...	41	34	1881	C...	.....	270
6	Lantern on a mast with white shed at base, standing on a crib.	38	25	1887	D ..	.....	270a
7	Lantern on a mast with white shed at base, standing on a crib.	45	25	1887	D...	To mark entrance to the gully from the gulf.	270b
10	White, square, wood...	40	28	1875	C ..	Complete revolution every two minutes.	271
11	White, square, wood...	32	30	1872 removed 1880	C...	Range light discontinued 1888	272
12	White, octagonal, wood.	79	74	1856	C...	A steam fog whistle placed in 1875, and situated 107 yards E. from light-house, sounds a blast of 5 seconds duration every half minute.	273
8	White, square, wood, with dwelling attached.	35	37	1876	C...	Range to guide to can buoy at passage over bar.	274
5	Lantern on a pole, traveling on a tramway to suit changes in channel.	25	23	1885	C...		275
12	White, square, wood ...	32 17	30 14	1872 1875	C.	Coast and harbor range lights	276
8	White, square, open frame.	20	19	1877	C...	Vessels crossing the bar from sea should steer N., keeping the lights in range.	277
8	Red, square, wood.....	26	26	1877	C...	Width of bar two cable lengths.....	278
7	White, square, wood...	32	33	1873	C...	Range light discontinued 1888	279
11	White, square, wood ...	32	30	1873	C...	Coast light and to indicate gully.....	280

List of lights on the coasts, rivers, and

NEW BRUNS

GULF OF ST.

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
281	Hay Island....	Near east end of island.	47 14 10	65 3 40	One.....	F...	White.	.....
282		210 feet W. ¾ N. from front light.	.....	.....	One.....	F...	White.	.....
283	Portage Island	Near S. point of island.	47 0 50	65 2 40	One.....	F...	White.	.....
284	Oak Point Front.	On the Point, Miramichi Bay.	47 7 10	65 41 58	One.....	F...	White.	.....
284a	Oak Point Back	1,800 feet NE. by E. from front light.	.....	.....	One	F...	White.	.....
285	Sheldrake Island.	Miramichi Bay....	47 5 37	65 10 5	Two, ½ mile apart.	F...	White.	.....
286	Grant's Beach Front.	Miramichi Bay ..	47 5 10	65 23 15	One.....	F...	White.	.....
286a	Grant's Beach Back.	1,300 feet N. 66° W. from front.	.....	.....	One	F...	White.	.....
287a	Middle Island.	Miramichi Bay....	47 3 28	65 27 0	One.....	F...	White.	.....
287	Newcastle	On limekiln bank, N. side of river, below the town.	47 0 45	65 33 40	One.	F...	Red ...	.....
287b	Bay du Vin Island.	Front light on west end of island.	47 5 20	65 7 5	One.....	F...	White	.....
		Back light, 1,222 feet NE. by E. from front light.	.....	.....	One.....	F...	White	.....
288	Fox Island, NW. point.	No. 1, 100 feet from northern coast.	47 8 5	65 2 22	One.....	F...	White	.....
		No. 2, 1,051 feet SE. ¼ E. from No. 1.	.....	.....	One.....	F...	White	.....
		No. 3, 954 feet SW. by W. ¼ W. from No. 1.	.....	.....	One.....	F...	White	.....
289	Fox Island, east end or Swashway.	On the middle of the island.	47 6 50	65 0 10	Two	F...	White	.....
290	Miramichi Bay Lightship.	Horseshoe Bar, between Fox and Portage Islands.	47 8 0	65 3 0	One.....	F...	Red ..	.....
291	Preston Beach.	Miramichi Bay ...	47 4 5	65 54 40	Two	F...	White	.....
292	Escuminac....	On point.....	47 4 32	64 47 33	One.....	F...	White	.....
293	Richibucto Harbor.	On outside of bank S. beach.	46 42 45	64 46 10	One.....	F...	White	.....
294		162 yards W. by S. ¼ S. from front light.	.....	.....	One.....	F...	Red...	.....
295	Richibucto Head.	On headland.....	46 39 40	64 42 30	One.....	F...	White	.....
295a	Buctouche Inner Lights.	Front light, close to shore road, on Indian or Church Point.	46 29 35	64 40 30	One.....	F...	White	.....
		Back light, 1,980 ft. NNW. ¼ W. from front one.	.....	.....	One.....	F...	White	.....

lakes of the Dominion of Canada—Continued.

WICK—Continued.

LAWRENCE—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
10	Lantern on mast, with red shed at base.	23	15	1881	C...	Range lights, to enable vessels seeking shelter to clear the point of the shoal off the east end of the island.	281
11	White, square, wood...	30	21	1881	C...		282
12	White, square, wood, with dwelling near.	46	42	1869	C...	.....	283
10	Lantern hoisted on a mast, with white shed at base, all supported on trestle work.	43	28	1869	D...	In one lead to red buoy in river above	284
10	Same as front light....	48	38	1869	D...		
*12 *10	Mast with shed at base.	45 35	46 39	1869	C...	Range lights	285
10	Same as Oak Point.....	120	34	1869	D...	In one lead to Napan black buoy	286
10	Same as Oak Point.....	140	34	1869	D ..		
12	Mast with shed at base.	44	45	1874	C...	.....	287
9	White, square, wood, with red roof.	87	23	1884	D...	.....	287a
10	Lantern on mast, red shed at base.	30	25	1882	C..	Range lights.....	287b
10	Lantern on mast, red shed at base.	42	30	1882	C..		
8	Lantern on mast, with white shed at base.	47	40	Removed 1881	D...	Nos. 1 and 2, in line, range NW. ½ N. into the Horseshoe Channel.	288
8	Lantern on mast, with white shed at base.	46	38	Removed 1881	D...	Nos. 1 and 3, in line, range NE. by E. ½ E. through Portage Island Channel.	
8	Lantern on mast, with white shed at base.	36	28	1881	D ..	Nos. 2 and 3, in line, range W. by N. ½ N. to the upper buoy of Horseshoe Shoal.	
10	White, wood	53 49	.....	1872	C ...	Range lights to guide vessels through the Swashway Channel.	289
8	.....	35	.....	1873	C ...	A schooner-rigged ship	290
10	White	52 66	....	1869	D ..	Range lights.....	291
14	White, wood.....	70	58	1841	D, 3.	A fog horn 109 yards W. of light-house, sounds blasts of 6 seconds duration, with intervals of 35 seconds.	292
12	White, square, wood, dwelling attached.	40	33	1879	C ...	To replace day beacons and lead through channel over bar at entrance to river.	293
12	White, square, wood, open frame.	44	43	1879	C ...	.....	294
14	White, square	70	50	1864	D, 4.	.....	295
9	White, square, wood, with red roof.	23	23	1883	C...	Range lights, visible in direction of range, replacing former day beacons	
12	White, square, wood, with red roof.	53	23	1883	C...	Lead into harbor through deepest channel clear of all obstructions from line of range of Dixon's Point lights to where channel turns abruptly to westward to enter Buctouche River.	295a

List of lights on the coasts, rivers, and

NEW BRUNS

GULF OF ST.

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
296	Buctouche	On Dixon's Point.	46 27 40	64 38 50	One	F...	White	
		1,050 feet NW. by W. from front light.				F...	White	
297	Cassie's Point.	On point	46 19 15	64 30 20	One	Rev	White	Every ½ min.
298	Shediac Island	Line of range W. by N. ¼ N.	46 15 20	64 31 50	Two	F...	White	
299	Shediac Harbor	Duchêne wharf. Line of range W. by N. ¼ N.	46 14 20	64 31 0	Two	F...	White	
300	Jourimain	On east end of island.	46 9 42	63 48 20	One	Fl..	White	10 seconds

PRINCE ED

301	North Point	On point	47 3 46	63 59 10	One	Rev.	White	Every minute
301a	Big Miminegash.	500 feet south of breakwater.	46 52 50	64 14 0	One	F...	Red and white.	
		Rix's Point, one mile S. ¼ W. from front light.			One	F...	White.	
302	West Point	On sand beach	46 37 30	64 23 10	One	Rev.	Red and white.	One red and three white flashes in 1½ min. Greatest brilliancy every 22½ sec.
302a	Cape Egmont	On point	46 24 20	64 7 45	One	F...	Red	
303	Summerside	Railway wharf, Bedeque Bay.	46 23 25	63 47 30	One	F...	White.	
304	Indian Point	East edge of shoal, on S. side of channel, in Bedeque Bay.	46 22 40	63 48 50	One	F...	White and green arc.	
305	Sea-Cow Head		46 19 10	63 48 20	One	F...	White.	
306	Crapaud	West end of bridge at head of harbor.	46 13 0	64 8 0	One	F...	White.	
		Inner range light, about ½ mile N. from outer one.			One	F...	White.	
307	St. Peter's Island	On S. side of Island, Hillsborough Bay.	46 7 15	63 10 30	One	F...	Red	

lakes of the Dominion of Canada—Continued.

WICK—Continued.

LAWRENCE—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
11	White, square, wood ...	36	30	1881	C ...	Range lights, built on line of former day beacons, to guide into Buctouche Harbor.	296
12	White, square, wood ...	41	35	1881	C ...		
14	White, square, wood, with dwelling attached.	47	27	1872	C ...		297
10	White masts, with elevated platform.	48 / 56	....	1869	C ...	Beacons	298
6	On iron masts, with sheds at the base.	32 / 38	....	1860	D ...		299
14	White, octagonal	72	45	1870 changed 1878	C ...	Visible over an arc of 229° 47′ from S. 54° 47′ E. round by W to N. 5° W.	300

WARD ISLAND.

14	White, octagonal	80	60	1866 changed 1875	C ...		301
5	Lantern on a mast with white shed at base.	30	.....	1886	.....	Shows fixed red from NE. round through E. to S. covering Miminegash Reef, and fixed white from S. to SW. by W., which includes the line of range. Vessels N. of reef bearing westward will be clear of it when red disappears.	301a
8	Lantern on a mast, with white shed at base.	45	.....	1886	.....	Shows over a small arc on each side of the line of range.	
13	Broad red and white horizontal bands, square, wood.	66	67	1876	C ...		302
10	White, square, wood, with dwelling attached.	72	45	1884	C ...		302a
10	Square tower on roof of railway freight shed.	33	30	1856 rebuilt. 1877	C ...		303
13	White, octagonal, wood, on a circular stone pier.	48	42	1881	C ...	Green between E. and N. ¼ N. and ESE. over Miscouche Shoals only.	304
15	White, octagonal, wood.	88	60	1863	C ...		305
6	White, square, wood ...	41	38	Tower built 1879	C.	White light in front tower shows SW. over Tryon Shoals, and blue light in line of channel only. The two lights in range lead to can buoy on Cameron's Reef and a cask buoy on Tryon Shoal. After passing these buoys the course is NW. to sheltered anchorage. An entrance to dredged channel is another cask buoy, whence the channel to the wharf is straight and marked by spar buoys and bushes. This last should not be attempted by strangers at night.	306
6	Shown from dormer window of a house.	60	24	1878			
10	White, square, wood ...	70	38	1881 moved 1884	C ...	Shows between W. ¼ S. and SE. by S. over an arc of 240°.	307

List of lights on the coasts, rivers, and

PRINCE EDWARD

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
308	Blockhouse Point.	At W. side of entrance to Charlottetown Harbor.	46 11 36	63 7 28	Two in one tower 21 feet apart vertically.	F...	Upper white, lower red.	.....
309	Orwell Harbor.	At Brush Wharf..	.....	.....	One.....	F...	Red...	.....
310	Point Prim....	SE. extremity of Hillsborough Bay, 100 yards from the point.	46 3 10	63 2 0	One.....	F...	White.	.....
311	Wood Island..	Off S. point	45 57 22	62 44 30	One.....	F...	White	.....
312	Cape Bear.....	On the headland..	46 0 35	62 27 15	One.....	Rev.	Red...	Every 30 sec..
313	Murray Harbor	On edge of sand bar, S. side of harbor.	46 1 28	62 28 25	One.	F...	White	.....
314		On mainland, about a mile W. by S. from front light.	.....	.....	One.....	F..	White	.....
315	Panmure Head.	S. E. extremity of Cardigan Bay.	46 8 55	62 27 40	One.....	F...	White	.....
316	Georgetown	On St. Andrew's Point.	46 9 57	62 31 23	One.....	F...	Red...	.....
316a		On Westaway's farm ¼ mile N. W. by W. ½ W. from front light.	.....	.....	One.....	F...	White	.....
317	Cardigan River	Between Ferry Wharf and Morrison's Beach W. shore of river.	46 12 50	62 31 45	One.....	F...	Green and white.	.....
318	Souris East ...	Knight's Point, 300 ft. S. E. of breakwater.	46 20 50	62 14 30	One.....	F...	White with red streak.	.....
319	East Point	200 feet from extreme point.	46 27 15	61 55 0	One.....	Rev.	White	Every 3 min..
320	St. Peter's...	On outer end of breakwater.	46 26 30	62 44 30	One.....	F...	White	.....
321		On sand beach, 126 yards S. W. by S. from light.	.....	.....	One.....	F...	White	.....

lakes of the Dominion of Canada—Continued.

ISLAND—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
12 W	White, square, wood, with dwelling and signal mast attached.	56	42	1851 rebuilt 1879	C ...	Lower light a streak from a window of the tower, showing only towards the bell buoy. Vessels entering, on coming into this streak, should steer for the light until they make the bell buoy; they should then steer N. by E. ½ E. for 2½ miles, when the port buoy will be made; they should then steer for the entrance to the harbor N. ¼ E.	308
2 R	.....	35			C ...		
8	White, square, wood...	28	32	Tower built 1879	C ...	Light shows S. W	309
12	White, circular, brick..	68	55	1846		Bell buoy on E. side of channel, black buoy on W. side 2¼ N. by E. ½ E. from bell buoy harborward.	310
15	White, square, wood, with dwelling attached.	80	40	1876	D, 4	.....	311
12	White, square, wood, with dwelling attached.	74	46	1881	C ...	.....	312
8	White, square, wood ..	33	30	1869 rebuilt 1879	C ..	In one, these range lights show the channel to the outer buoy.	313
10	White, square, wood...	57	40		C ...		314
16	White, octagonal, wood	96	50	1853	D, 4.	This light should be kept open off Terras Point, to clear reef off Cape Bear.	315
10	White, square, wood...	36	20	1868	C ...	Maintained all the year round.....	316
12	Lantern on a mast.....	50	30	1877	C ...	The two in range lead in to the point clear of obstructions.	316a
8	White, square, wood...	43	32	1883	C ...	Green to seaward, white across river to N. eastward in entering river. Vessels should stand northward inside Boughton Island until Panmure Island light bears S. by W. and Cardigan River light NW. when they can stand in, keeping light open on port bow. When white light is opened safe anchorage has been reached.	317
15	White, square, wood with dwelling attached.	85	45	1880	D, 4.	Vessels open red streak when light bears SE. by S. They are then inside breakwater, and by running up and keeping the red light open will come to safe anchorage off the head of railway wharf.	318
15	White, octagonal, wood	100	60	1867 moved 1885	C ...	A fog horn operated by compressed air, sounds a blast of about 8 seconds duration every half minute. It stands 100 feet eastward of light-house. Fog alarm building in line with tower roughly indicates range of outer point of reef.	319
6	White, square, wood.	34	35	1885 buildings erected 1879	C ..	Range lights, to lead into harbor. The inner one is liable to be moved to suit shifting of the channel.	320
6	White, square, open frame.	32	33		C ..	.....	321

List of lights on the coasts, rivers, and

PRINCE EDWARD

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
322	Savage Harbor.	On McEachern's farm, on inner shore of harbor.	46 25 40	62 48 20	One	F	White	
322a		330 feet S. ¼ E. from outer light.	.... ..	.....	One	F	White	
323	Tracadie	On beach, W. side of channel, 233 yards N. E. by N. from back light.	46 25 20	63 2 30	Two	F	Red	
324	South or Little Rustico.	S. E. end of Robinson's Sound, about 3 miles S. E. of Grand Rustico.	46 36 25	63 13 38	Two	F	Red	
325	Cove Head....	Range lights.....	46 26 10	63 8 45	Two	F F	White Green	
326	North or Grand Rustico.	W. side of entrance to harbor.	46 27 42	63 17 15	One	F	White	
326a		225 feet E. by N. ¼ N. from main light.	.....	.....	One	F	Red	
327	New London	W. side of entrance to Grenville Harbor.	46 31 10	63 28 45	One	F	Red	
328		Range light 500 feet NE. main light.	.....	.....	One	F	White	
329	Fish Island..	Entrance to Malpeque or Richmond Bay on inside of island.	46 34 44	63 42 29	One	F	White	
329a		Front range 1,200 feet SE. by E. ¼ E. from main light.	46 34 55	63 42 17	One	F	White	
30	Little Channel.	On Conway Inlet, N. side.	46 40 0	63 52 40	Two, 66 yds. apart.	F	White	
331	Casenmpec or Alberton.	SW. part of Sandy Island.	46 48 22	64 2 15	One	F	White	
331a		Near inner end of railway wharf.	46 48 0	64 3 0	One	F	Red	
331b		On the village square.	... .	.....	One	F	Red	
332	Big Tignish	On beach at inner end of N. breakwater pier.	46 57 35	63 59 20	One	F	White	
332a		On outer end of N. breakwater pier, 620 feet SE. ¼ E. from main light.	.....	.....	One	F	Red	

lakes of the Dominion of Canada—Continued.

ISLAND—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
3	Mast, with brown shed at base.	22	20	1864	D...	Lights in range lead to mid-channel buoy outside bar. Vessels open the lights on starboard bow, after passing buoy, until inner fairway buoy is reached, whence channel leaves range. Only 5 feet on bar at low tide. Outer light liable to be moved.	322
5	Mast, with brown shed at base.	30	25	1884	D...		322a
10 9	Open, square, framework.	30 19	32 21	1876	C...	In one, lead through channel over the bar. Position of both towers liable to be changed to suit shifting of the channel.	323
6	On masts	26 17	22 14	1875	.....	In one lead through channel at entrance to harbor. Position of both towers liable to be changed.	324
3	Lanterns on masts	33 23	27 17	1879	...	Back light white, front one green. Back light liable to be moved to suit changes in the channel. Only 4 feet on bar.	325
8	White, square, wood, with dwelling attached.	40	35	1876 changed 1884	C.	Both lights show from SE. round by S. to NNE. The two, in range, lead to black can buoy outside bar in 13 feet water. From this the course in is first W. by S. ½ S., then SW. to point of beach. Outer light liable to be moved to suit channel.	326
5	Lanterns on a mast	22	.....	1884	D.		326a
10	White, square, wood, dwelling attached.	40	35	1876	C.	The two lights, in range, show the entrance to the harbor.	327
8	White, square, open frame.	24	21	1879	C.	Outer range light, liable to be moved to suit shifting of the channel.	328
12	White, square, wood, with dwelling attached.	50	46	1856 rebuilt 1876	C..	The main light is a sea-light. The smaller one, in range with it, shows the channel over the bar with 15 ft., and ranging with the fairway buoy inside the bar.	329
6	Open framework, lantern white.	18	22	1876			329a
10	White, square, wood...	26	30	1872 rebuilt 1876	C..	In one lead through channel at entrance to harbor. Outer light liable to be moved to suit changes in the channel.	330
8	Open framework, lantern white.	16	20				
12	White, square, wood, with dwelling attached.	45	41	1856 rebuilt 1876	C...	Coast light	331
9	On a mast with slatwork day beacon.	22	.....	.....	D.	Range lights, back light is about 1,100 feet due west from the front light, and leads a direct course from the outer buoy up the harbor.	331a
11	Open frame tower, surmounted with a mast.	40	22	.....	D.		331b
11	White, with a black horizontal band, square, wood.	35	33	1877 building 1881	C.	These two lights, in range, guide in between the breakwaters.	332
5	Lantern on mast.....	18	14	1883	C.	The outer light also shows end of pier, and is for convenience of small vessels only.	332a

Lights on the coasts, rivers, and

NOVA

GULF OF ST.

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	West. ° ′ ″				
333	Pugwash.....	In harbor.....	45 52 30	63 40 20	One.....	F...	Red ..	.....
334	Mullin's Point.	N. side of entrance to Wallace Harbor.	45 49 45	63 25 15	Two....	F... / F...	White / Red ..	.....
335	Amet Island ..	Centre of Island, Northumberland Straits.	45 50 15	63 10 10	One.....	F...	White	.....
336	Caribou Island	NE. part of island.	45 46 0	62 42 20	One.....	Rev.	White	Every minute.
337	Pictou	S. point of entrance to harbor.	45 41 30	62 39 30	Two, vertical, 25 feet apart.	F..	Upper white, lower red.	.....
338		In tower of new custom-house.	45 40 50	62 42 10	One	F..	White	.....
339	Pictou Island .	SE. point.....	45 49 10	62 30 30	One	F..	White	.....
339a	Merigomish...	On King Head, entrance to harbor.	45 29 20	62 28 30	One	F..	Red...	.....
340	Cape St. George.	N. side of cape....	45 52 30	62 54 40	One	Rev.	White	Every ½ min ..
341	Pomquet Island or Bayfield.	NE. end of island, in St. George's Bay.	45 39 40	61 44 30	One	F..	Red...	.....
342	Harbor au Bouche.	On SW. shore of harbor.	45 41 0	61 31 15	One	F..	White	.....
343		473 yards SW. ¾ S. from front light.	.....	.....	One	F..	Red...	.....
344	North Canso ..	N. entrance, W. side, 120 yards inshore.	45 41 40	61 29 10	One	F..	White	.....

CAPE BRETON

345	Port Hood....	SE. side of entrance to harbor.	46 0 0	61 31 40	One	F..	Red and white.	.....
345a	Mabou	On outer end of breakwater, on SW. side of dredged channel.	46 5 40	61 28 10	One.....	F..	White	.....
345b		On shore at McFayden's wharf about 3,000 feet from front light.	.....	.....	One.....	F..	Red...	.....
346	Margaree	Summit or middle of Sea Wolf Island.	46 21 30	61 15 30	One.....	F..	White	.....
346a	Margaree Harbor.	On outer end of breakwater pier.	46 26 35	61 6 40	One.....	F..	Red and white.	.....
347	Cheticamp ...	Near S. end of island.	46 36 30	61 3 10	One.....	Rev.	White	Every 45 sec..
348	Cape North....	½ mile SE. from Money Point.	47 1 45	60 23 15	One.....	Rev.	Red and white.	Every 45 sec..
348a	Cape St. Lawrence.	.....	.....	.....	.....	.....	.....	.....

lakes of the Dominion of Canada—Continued.

SCOTIA.

LAWRENCE.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
8	White, square	48	44	1871	C	Shows a white light towards harbor..	333
11	White, square, wood..	39 48	25	1873	C	Red light, shown from window in keeper's dwelling. Two lights, in one, form a range to lead across bar and in channel up to point.	334
10	White, square, wood, lantern on roof of dwelling.	44	26	1868	C	Visible around horizon	335
10	White, square	35	26	1868	C		336
11	Striped red and white vertically, octagonal, wood.	65	56	1834	C	Lighted when navigation is open. A small red light is seen below lantern; by keeping light WSW. vessels clear the E. reefs of Pictou Island.	337
8		60	72	1878	C	In range with lights at entrance to harbor, leads through the channel up to the bar.	338
12	White, square	52	32	1853	C		339
10	White, square, wood	105	40	1882	C		339a
25	White, square	350	39	1861	C		340
9	White, square	56	23	1868	C	Obscured on easterly bearings	341
9	White, square, wood	36	32	1879	C	Range lights, to lead through dredged channel over the bar.	342
9	White, square, wood	107	32	1879	C		
18	White, square, wood, lantern on dwelling.	110	35	1842	C	There is a good anchorage under the light when the wind is offshore.	344

ISLAND.

10	White, square	55	33	1854	C	Red to northward, white to southward	345
9	Mast, with white shed at base.	25	20	1884	D	The two, in range, lead through the dredged channel up to breakwater.	345a
7	Mast, with white shed at base.	30	20	1884	D		345b
21	White, square	298	40	1854	C	To vessels in dangerous proximity to the island, the light may become obscured by the abrupt cliffs of the island.	346
4	White, square, wood	21	21	1885	D	The light shows red to seaward or in the direction N. 14° E. and for 35° on each side of this, and white from the eastern and western sides of this lantern.	346a
20	White, square, wood	149	24	1872	C	In entering the harbor the easterly light should be kept close aboard in passing.	347
15	White, square, wood	74	26	1876	C	Coast light. Makes a complete revolution every 1½ minute.	348
						Light-house to be built	348a

Lights on the coasts, rivers, and lakes of

NOVA

CAPE BRETON

No.	Name of light.	Place.	Latitude. North. ° ′ ″	Longitude. West. ° ′ ″	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
349	Ingonish	On island	46 41 20	60 20 0	One	F.	White	
349a	Ingonish Harbor.	On beach S. side of entrance to harbor.	46 38 15	60 23 12	One	F.	Red	
350	St. Ann Harbor.	On N. point of beach.	46 17 30	60 32 15	One	F.	White	
351	Bird Island	Ciboux Island, ¼ mile from N. end.	46 23 10	60 22 30	One	Rev.	Red	Every minute.
352	McKenzie Point.	N. side of Bras d'Or Lake, about 2 miles SW. of Port Bevis.	46 7 15	60 30 0	One	F	White	
352a	Carey's Beach.	N. side of entrance to Great Bras d'Or.	46 17 45	60 24 47	One	F	Red	
352b	McNeil's Beach	On N. side of Boularderie Island, Big Bras d Or.	46 14 0	60 29 20	One	F	Red	
353	Kidston Island.	On NE. point, at entrance to Baddeck Harbor, N. side of Bras d'Or Lake.	46 5 58	60 44 20	One	F	Red	
354	Little Narrows	At eastern entrance.	46 0 0	60 58 25	One	F	White	
354a	Whycocomagh	On Fraser's Point, N. side of St. Patrick's Channel.	45 57 57	61 4 30	One	F	Red	
355	Grand Narrows	On Uniacke Point, N. side of channel, Barra Straits.	45 58 0	60 48 0	One	F	White	
355a	Piper's Cove	On western bend of Derby Point, Grand Narrows.	45 56 30	60 48 0	One	F	Red	
355b	Freestone Islet	On Gregory Island, St. Peter's Inlet.	45 42 50	60 47 50	One	F	Red	
355c	Beaver Island	On SE. point, St. Peter's Inlet.	45 40 40	60 49 47	One	F	Red	
355d	Gooseberry Island or Marjorie's Isle.	W. from Sandy's Point, St. Peter's Inlet.	45 40 7	60 51 5	One	F	Red	
356	Cape George	S. side of Bras d'Or Lake, W. side of entrance to St. Peter's Inlet.	45 44 28	60 48 20	One	F	White	
357	Black Rock Point.	S. side of entrance to Big Bras d'Or.	46 18 ?0	60 23 30	One	F	White	
358	Point Aconi	On high cape, N. side of entrance to Little Bras d'Or.	46 20 30	60 17 10	One	F	Red	
359	Sydney Bar	On W. end of S. Bar.	46 12 40	60 12 40	One	F	Red	
359a	Cranberry Head fog-horn.	On N. side entrance to Sydney Harbor.	46 15 53	60 12 15				
360	Low Point	Flat Point, E. side of Spanish Bay.	46 12 30	60 7 30	One	F	White	
361	Lingan Head	N. side of entrance to Bridgeport Harbor.	46 14 10	60 2 40	One	F	Red	
362	Flint Island	On island	46 11 0	59 46 50	One	Rev.	White	Every 15 sec.
362a	Cow Bay	On outer end of breakwater.	46 8 5	59 51 50	One	F	Red	

the Dominion of Canada—Continued.

SCOTIA—Continued.

ISLAND—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
20	White, square	237	40	1871	D, 5.		349
8	White, square, wood	45	38	1887	D...	To mark entrance to harbor	349a
8	White	25	30	1871 rebuilt 1881	C...	To mark entrance to harbor	350
14	White, octagonal	77	33	1863	C...		351
11	White, square, wood	95	30	1874	C...	For guiding vessels through Bras d'Or Lake.	352
5	Lantern on mast, with white shed at base.	33	25	1886	D...		352a
8	Lantern on mast, with white shed at base.	33	25	1884	D...		352b
7	White, square, wood	31	33	1875	C..		353
10	White, square, wood	40	35	1881	C..		354
7	Lantern on mast, with white shed at base.	31	25	1884	D...		354a
10	Brown, square, wood	29	20	1874	C...	For guiding vessels through Barra Straits and navigating the Little and Great Bras d'Or Lakes.	355
11	White, square, wood	77	33	1884	D, 6.		355a
5	Lantern on mast, with white shed at base.	31	25	1884	D...		355b
5	Lantern on mast, with white shed at base.	30	25	1884	D...		355c
5	Lantern on mast, with white shed at base.	31	25	1884	D...		355d
10	White, square, wood	50	20	1875	C...	To guide vessels through St. Peter's Inlet.	356
12	White cross on red ground, square, wood.	45	23	1868	C...		357
11	White, square, wood	91	20	1874	C...	For guiding vessels into Little Bras d'Or.	358
10	White, square, wood	30	20	1872	C...		359
....	Drab, with red roof, wood.	.....	.....	1887	.....	Steam fog-horn gives blasts of 10 seconds duration every minute.	359a
14	Vertical red and white stripes, octagonal.	70	51	1832	C...	Marine telegraph and signal station	360
10	White, square, wood	50	20	1874	C...		361
12	White, octagonal	32	43	1856	C...	Visible around horizon	
7	Lantern on frame	65	24	1881	C...		

Lights on the coasts, rivers, and lakes of

NOVA

CAPE BRETON

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
363	Scatterie	NE. point of Trap Rock.	46 2 15	59 40 15	One.....	Rev.	White	Visible a minute, eclipsed half a minute.
364	Mainadieu	On S. side of W. point of Scatterie Island.	46 0 30	59 47 30	One.....	F...	Red...	.....
365	Louisburg	N. side of entrance to harbor, 120 yards inshore of point.	45 54 30	59 57 15	One.....	F...	White	.....
366	Guion Island..	About 230 yards from W. end of island.	45 46 10	60 6 20	One.....	Rev.	Red...	30 seconds ....
367	Saint Esprit Island.	E. end of island...	45 36 30	60 29 20	One.....	Rev.	White	30 seconds ....
367a	Jerome Point .	St. Peter's Bay, near entrance to canal.	45 39 5	60 52 0	One.....	F...	Red...	.....
367b	Grand Digue..	On beach near wharf, Lennox Passage.	45 35 51	61 1 5	One.....	F...	Red...	.....
367c	Seal or Dog Island.	Lennox Passage..	45 35 31	61 4 0	One.....	F...	Red...	.....
367d	Glasgow Point.	Lennox Passage..	45 34 0	61 7 50	One.....	F...	Red...	.....
368	Ouetique Island.	On S. point	45 36 40	60 57 15	One.....	F...	Red..	.....
369	Cape La Ronde	W. side of entrance to Peter's Bay.	45 34 45	60 53 0	One.....	F...	White	.....
370	Green Island..	Summit of island .	45 28 50	60 53 40	One.....	Alt.	Red and white.	Alternate every 45 seconds.
371	Petitdegrat ...	On Big Arrow Island, SE. of Madame Island.	44 29 54	60 57 30	One.....	F...	Red ..	.....
372	Arichat	Marache Point S. entrance to Madame Island.	45 29 0	61 1 50	One.....	F...	White	.....
373	Jersyman Island.	Arichat Harbor..	45 30 20	61 3 0	One.....	F...	Red...	.....
374	Creighton's Head.	On the N. extremity.	45 30 40	61 6 0	One.....	Rev.	White	Every 40 sec..
*375	Point Tupper.	Ship Harbor, or Port Hawkesbury.	45 36 40	61 22 0	One.....	F...	Red...	.....
376	Sand Point....	On Eddy Point, S. entrance.	45 31 30	61 14 40	Two horizontal, 24 feet apart	F...	White	.....
377	Guysborough Harbor.	W. side of entrance, near Peart Point, Chedabucto Bay.	45 22 50	61 29 10	One.....	F...	White	.....
377a	Crow Harbor..	On Rook Island, Chedabucto Bay.	45 21 5	61 16 0	One.....	F...	White	.....
378	Canso Harbor .	On Hart or Culter Island.	45 21 0	60 58 30	One.....	F...	Red...	.....

* Cape Breton Island ends with No. 375.

the Dominion of Canada—Continued.

SCOTIA—Continued.

ISLAND—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
15	White, octagonal	90	70	1839	C ...	The light should never be brought to bear to eastward of NNE., or to southward of SSW., nor approached nearer than 1½ mile. Boat here to render assistance. Fog-whistle sounds two blasts of 5 seconds with an interval of 10 seconds in every minute.	363
10	White, square, wood ...	90	40	1871	C ...	.....	364
16	White, with a black vertical stripe, on dwelling.	85	35	1842	C ...	Automatic whistle buoy moored in 30 fathoms 1½ miles SE. ¼ E. from light-house. From this buoy a course NW. by W. will clear the Broad Shoal and lead to the fairway of Louisburg Harbor.	365
12	White, square, with dwelling attached.	74	54	1877	C ...	.....	366
14	White, with two red bands, square, wood, with dwelling attached.	78	55	1880	C ...	Bad Neighbor Shoal, SW. ¾ W. 1½ mile from this light, is not more than 12 feet below water.	367
10	White, square, wood, dwelling attached.	56	40	1883	C ...	To lead vessels up the bay to canal ...	367*a*
5	Lantern on mast, with white shed at base.	30	25	1884	D ...	.....	367*b*
5	Lantern on mast, with white shed at base.	34	25	1884	D ...	.....	367*c*
5	Lantern on mast, with white shed at base.	39	25	1884	D ...	.....	367*d*
9	White, square, wood, dwelling attached.	78	28	1874	C ...	For guiding vessels through Lennox Passage.	3 8
14	White, square, wood, dwelling attached.	92	28	1874	C ...	For guiding vessels into St. Peter's Bay.	369
14	White, square, wood, light in center of keeper's dwelling.	70	31	1865	C ...	Visible around horizon	370
10	White, square, wood, dwelling attached.	38	31	1817	C ...	.....	371
8	White, square, wood...	34	25	1851	C ...	.....	372
11	White, square, wood ...	39	28	1872	C ...	There is a range beacon on the SE. point of Jerseyman Island that marks Hautfond Shoal, off entrance to harbor.	373
10	White, square, wood ...	29	20	1874	C ...	For guilding vessels into Little or West Arichat.	374
7	White, square, wood ...	44	24	1870	C ...	In consequence of the intervention of the land on the S. side, can only be seen 3 miles in that direction.	375*
8	White, with a black diamond square, wood.	25 each	26	1851	C...	Light in windows at each end of building.	376
8	White, square, wood...	60	20	1864	C ...	.....	377
12	White, square, wood...	50	40	1882	D, 6.	Harbor light.....	377*a*
12	White, square, wood...	42	28	1872	C ...	.....	378

*Cape Breton Island ends with No. 375.

List of lights on the coasts, rivers, and

NOVA

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
379	Sable Island...	1½ mile from E. end.	43 58 30	59 46 0	One.....	F ...	White	.....
380	Sable Island...	W. end	43 57 0	60 8 0	.....	.....	.....	.....
381	Cranberry Island.	N. part of island, off Cape Canso.	45 19 50	60 55 25	Two in one tower, vertically, 35 ft. apart.	F ..	White	.....
						F ..	White	.....
382	Whitehead Island.	S. W. extremity of island, Guysboro' County.	45 12 0	61 8 15	One.....	Rev.	White	every 20 seconds.
383	Three top Island.	S. E. point of island, entrance to Whitehaven.	45 12 40	61 9 40	One.....	F ...	White	.....
384	Torbay.....	On eastern point of Berry Head, W. side of entrance to bay, Guysboro' County.	45 11 37	61 18 35	One.....	F ...	Red and white	.....
385	Country Harbor.	On Green Island. Guysboro'County.	46 6 15	61 32 30	One.....	F ...	White	.....
386	Isaac Harbor	On W. side of harbor about ½ mile S. from Holly Point.	45 10 0	61 39 12	Two, vertically, 20 feet apart.	F ...	White	.....
387	Wedge Island.	Mouth of St. Mary River.	45 0 35	61 52 35	One.....	Rev.	Red...	Show 1 minute in 3 minutes.
388	Liscombe	On island.....	44 59 20	61 57 50	One.....	Alt	Red and white.	Every 2 min..
389	Beaver Island.	S. E. part of East Beaver or William Island.	44 48 10	62 20 30	One.....	Rev	White	Every 2 min..
389a	BeaverHarbor.	On E. end of Beaver Point.	44 52 23	62 23 40	One.....	F ...	Red...	.....
389b	Sheet Harbor Passage.	In dormer window of James Wambold's house.	44 51 30	62 26 33	One.....	F ...	Red...	.....
390	Sheet Rock....	Entrance to Sheet Harbor.	44 49 55	62 29 40	One.....	Rev.	Red ..	Every 40 sec..
391	Pope's Harbor	On W. point of Harbor Island.	44 47 40	62 38 50	One.....	F ...	Red ..	.....
392	Egg Island....	Centre of island..	44 39 50	62 51 32	One.....	Alt.	Red and white.	Every minute.
393	Jeddore Rock	On summit of rock, about 22 miles east of Halifax.	44 39 45	63 0 22	One.....	F ...	Red ..	.....

lakes of the Dominion of Canada—Continued.

SCOTIA—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
18	White and brown, alternately, octagonal.	128	86	1873	D, 2.	.....	379
....	.....	.....	.....	1873	.....	Light temporarily discontinued, in consequence of encroachment of sea. Will be re-established further east.	380
15	Red and white horizontal bands, octagonal, rising above the roof of a dark dwelling attached.	89	.....	1815 rebuilt 1863	D, 3	Upper light visible all round; lower one does not show to vessels passing between it and coast. A fog whistle sounds a blast of 8 seconds in each minute.	381
12	.....	54	78	.....	D, 6	An automatic signal buoy in 20 fathoms, 1½ mile ESE. from Grimes's Shoal, off Cape Canso.	
11	Pyramidal, wood, octagonal lantern.	55	35	1854	C ...	Light not totally obscured during the eclipse; 10 seconds duration of flash, and 10 seconds eclipse.	382
11	White, square, wood, with dwelling attached.	48	32	1879	C ...	To guide vessels in Whitehaven. To point out dangers on N. side of W. passage; light is obstructed when bearing to eastward of NE. by E., visible from all other points, except when intercepted by high land of Whitehead Island.	383
10	White, with vertical red stripes, wood.	51	36	1876	C ...	Shows red to seaward, white to northward into bay and towards Molasses Harbor. Top of lantern painted black.	384
12	White, square, wood...	51	28	1873	C ...	Coast light, and to guide vessels frequenting Country and Fisherman's Harbors.	385
9	White, square, stone, with dwelling attached.	80	20	1874	C ...	.....	386
12	White, square, wood, with dwelling attached.	81	44	1879	C ...	.....	387
15	White, square, wood...	64	28	1872	C ...	.....	388
12	White, with two black balls to seaward, S. S. W.	70	35	1846	C ...	On dwelling.....	389
6	Lantern on a mast, with white shed at base.	40	25	1887	D ...	.....	389a
5	White, square, wooden dwelling.	42	20	1887	C ...	Visible from N. to N. by E. ½ E	389b
10	White, square, wood, with dwelling attached.	75	41	1879	C ...	Light seen from NW. ¾ W. round by N. to NE. by E. ½ E. Rock lies nearly in mid channel of harbor entrance, its western end, partly awash, distance 350 yards from lighthouse. An automatic signal buoy in 24 fathoms, S. by W. ½ W. 5½ miles from lighthouse.	390
9	White, square, wood, dwelling attached.	45	37	1877	C ...	.....	391
15	Black and white vertical stripes on seaward side, octagonal, wood.	80	45	1865	C ...	Visible around horizon.....	392
12	White, square, wood, dwelling attached.	86	50	1881	C ...	.....	393

List of lights on the coasts, rivers, and

NOVA

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
394	Devil Island ..	On S. point of island.	44 34 50	63 27 15	Two E. ¾ N. and W. ¾ S., 175 yds. apart.	F...	White	.....
395	Meagher Beach	Sherbrook Tower, E. side of entrance to Halifax Harbor	44 36 0	63 31 50	One.....	F...	White	.....
396	George Island.	On W. side of island, in Halifax Harbor.	44 38 30	63 33 20	Two, 20 ft. apart, vertically.	F...	White	.....
396a	Herring Cove.	Western head	44 33 57	63 33 0	One.....	F...	Red ..	.....
397	Chebucto Head	W. side of entrance to Halifax Harbor.	44 30 20	63 30 50	One.....	Rev.	White	Every minute
398	Sambro.....	Middle of island ..	44 26 10	63 33 30	One.....	F...	White	.....
398a	Terence Bay..	On Shipley Head, near Terence Point.	44 27 40	63 42 10	One.....	F...	Red ..	.....
399	Betty Island ..	On Brig Point, near Prospect.	44 26 22	63 45 54	One.....	Rev.	Red ..	Greatest brilliancy every 2 minutes.
400	Peggy Point...	E. side of entrance to Margaret's Bay.	44 29 30	63 55 0	One.....	F...	Red ..	.....
401	Margaret's Bay	On Green Island, Lunenburg County.	44 23 0	64 2 45	One.....	Alt.	Red and white	Red....52 sec. Eclipse 38 sec. White .52 sec. Eclipse 38 sec. 3 min.
401a	Croucher's Island.	In Margaret's Bay	44 38 24	63 57 20	One.....	F...	White	.....
401b	Hubbard's Cove.	On Green Point, W. side of entrance.	44 37 14	64 3 8	One.....	F...	Red...	.....
402	Chester, or East Ironbound island.	A little to eastward of centre of island in Mahone Bay.	44 26 10	64 4 50	One.....	F...	White	.....
402a	Quaker Island	Off Chester.....	44 30 55	64 13 50	One.....	F.	Red...	.....
403	Westhaver Island.	Mahone Bay.....	44 26 12	64 20 5	One.....	F...	White	.....
404	Hobson's Nose	Mahone Bay.....	44 25 0	64 13 46	One.....	F...	Red...	.....
405	Cross Island ..	E. point, Lunenberg Bay.	44 18 45	64 10 0	Two, vertical, 35 feet apart	Int.	White	Bright 45 sec.; dark 15 sec.
						F..	White	.....

lakes of the Dominion of Canada—Continued.

SCOTIA—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
13	Both white, octagonal, wood.	E 59 W 52	53 45	1877 1852	C ..	Pilots are stationed here. The eastern light, open to southward of westward clears to southward of Thrumcap Shoal.	394
12	White, with red roof, granite.	58	48	1815	C ...	When Sambro light bears WSW., this light should not be brought to the westward of north, which clears the Thrumcap Shoal. A fog bell here strikes 7 times in each minute.	395
8	Drab, square, wood....	50 30	21	1876	C ...	Lights show seaward on S.; into harbor on N. side. On W. side upper light only seen. Vessels passing Meagher's Beach entering harbor to keep the light on starboard bow. These lights open to westward of Meagher Beach, clear the westward of Thrumcap Shoal.	396
8	Mast with white shed at base.....	52	25	1886	D ..	Harbor light.....	396a
18	White, square, wood ...	132	22	1872	C ...	Automatic signal buoy in Lat. 44° 21′ 42″ N., Long. 63° 29′ 20″ W., in 21 fathoms water, NE. ½ E., 1½ mile from Chebucto Head, sounds a 10-inch whistle. Similar buoy in Lat. N. 44° 28′ 25″, Lon. W. 63° 22′ 10″, in 36 fathoms. From this buoy Sambro Island light bears W. ½ N. 8½ miles. Devil's Island N. ¼ W. 7½ miles, and the inner signal buoy N W. ½ N. 6 miles.	397
20	White, octagonal.....	115	60	1758	D, 2.	A steam fog whistle, erected on S. side of island, and elevated 90 feet above high water, sounds each minute a blast of 10 seconds duration.	398
7	Mast with white shed at base.	55	25	1885	D...	.....	398a
14	White, with two horizontal red bands, square, wood, dwelling attached.	75	54	1875	C ...	Coast light.....	399
8	White, square	65	26	1868	C ...	Lantern on dwelling.....	400
W 13 R 8	White, square, wood, with dwelling attached.	66	28	1874	C ...	.....	401
15	White, square, wood..	90	40	1882	D, 6.	.....	401a
11	White, square, wood, dwelling attached.	60	42	1886	D...	.....	401b
16	White, oblong, tower, on dwelling, wood, lantern.	150	46	1871	C ...	Seen from all points of approach; the lantern alone is visible; building hidden by trees.	402
11	White, square, wood, with dwelling attached.	109	35	1883	D, 6.	To guide into Chester Basin	402a
13	Lantern on a mast with shed at base.	59	32	1882 ch'gd 188;	D, 1.	.....	403
11	White, square, wood...	68	29	1872	C ...	.....	404
14	Red, octagonal, base..	100	58	1832	C ...	Pilots resort here, and vessels may take refuge in case of necessity.	405
6	.....	65	.....	1832	C ...	Fog horn sounds 10 seconds every ¼ minute.	

List of lights on the coasts, rivers, and

NOVA

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution of flash.
			North. ° ′ ″	*West.* ° ′ ″				
406	Battery Point	Entrance to Lunenburg Harbor.	44 21 45	64 17 35	One	F...	Red...	
407	West Iron-bound island.	Near Cape Lahave, mouth of Lahave River.	44 13 45	64 16 20	One	Rev	White	Every 30 sec..
408	Lahave	On Fort Point	44 17 20	64 21 0	One	F...	Red..	
409	Moser Island	On island W. side of entrance to Lahave River.	44 14 15	64 18 50	One	F...	Red...	
410	Medway Head.	Port Medway, W. side entrance.	44 6 10	64 32 15	One	F...	White	
411	Coffin Island	S. point, Liverpool Bay.	44 2 0	64 37 30	One	Rev	White	Every 2 min.; light 30 sec.; dark 90 sec.
412	Brooklyn Pier.	On end of breakwater, Liverpool.	44 2 40	64 41 30	One	F...	White	
413	Fort Point	Liverpool Bay, S. entrance.	44 2 30	64 42 20	One	F...	Red...	
414	Port Mouton..	N. E. point, Spectacle Island, Queen's Co.	43 55 0	64 48 0	One	F...	Red...	
415	Little Hope ..	Nearly on centre of island.	43 48 30	64 47 15	One	Rev	Red...	Every minute.
416	Port Herbert	On Shingle Point, E. side of harbor.	43 48 40	65 55 30	One	F...	Red...	
417	Carter Island	Rugged Island Harbor.	43 42 15	65 5 30	One	F...	Red...	
418	Rugged Island Harbor.	Gull Rock	43 39 15	65 5 50	One	F...	White	
419	Sand Spit	At E. side of entrance to Shelburne Harbor.	43 41 25	65 19 28	One	F...	Red...	
420	Cape Roseway.	Near SE. point of MacNutt Island, Shelburne Harbor.	43 37 15	65 15 45	Two, vertical, 55 feet apart.	F...	White	
421	Negro Island..	On N. side	43 30 54	65 20 58	One	Alt.	Red and white.	Every minute.
422	Baccaro	On E. side of entrance to Barrington Bay.	43 26 51	65 28 12	One	F...	Red...	
423	Barrington East Bay Light-ship.		43 31 5	51 34 25	One	F...	White	
424	Cape Sable...	On Cape	43 23 19	65 37 11	One	Rev.	White	Bright 15 sec.; dark 25 sec.

lakes of the Dominion of Canada—Continued.

SCOTIA—Continued.

Miles seen in clear weather.	Color and any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
11	White, square tower on dwelling.	50	24	1864	C		406
13	White, square	72	29	1855	C	Near edge of cliff 40 feet high	407
8	White, square, wood	48	35	1876	C	A bell buoy is moored in 22 fathoms off the Lahave River, 3 miles E. by S. from Moser's Island Light, and 2½ miles SSW. from W. Ironbound Light.	408
8	White, square	55	26	1868	C		409
10	White, square, with black, square, seaward.	44	23	1851	C	Like a dwelling house	410
16	Horizontal stripes, red and white, eight in number, octagonal.	66	50	1812	C	An automatic whistle buoy, colored white and black in vertical stripes, is moored in 20 fathoms in fairway off Liverpool, lat. 44° 0′ 20″, lon. W. 64° 36′ 55″. From the buoy Coffin Island light bears N. ¼ E. 1¼ mile; Fort Point light NW. ¼ N., and Western Head W. ¾ S. 2½ miles. From the buoy a course NW. ¾ N. for 4 miles will clear all danger to anchorage off Brooklyn Pier.	411
10	White, square, wood	32	33	Building 1878	C	Shows red towards harbor. Light discontinued till further notice.	412
7	White, square	30	17	1855	C	Left on port side when entering the harbor.	413
11	Square, wood	47	20	1873	C	For guiding vessels into harbor	414
....	White, square	40	26	1865	C	Centre of keeper's dwelling; visible around horizon.	415
10	White, square, wood	33	29	1872	C		416
11	White, square, wood	66	29	1872	.....		417
10	White, square	56	31	1853	C		418
10	White, square, wood on pier.	47	44	Rebuilt 1880	C		419
10* 18†	Black and white, vertical stripes, octagonal.	120 / 65	77	1788 repaired 1858	C	Fog trumpet sounds a blast of 10 seconds duration every two minutes.	420
13	White, square, wood, with dwelling attached.	60	44	1872 rebuilt 1887	C		421
10	White, square, with black ball seaward.	49	35	1850 new lantern 1882	C		422
....	Hull and spars painted red, with word "Barrington" in white letters on both sides.	.....	30 above deck.	1875	.....	Moored in 6 fathoms, Wesses' Ledge, SW. by W. ½ W., ⅝ mile; Baccaro Light, SSE. ⅝ E., 6⅛ miles; Bantam Rocks, S. by E. ¼ E., 6½ miles. To guide into Barrington Bay and through Barrington Passage.	423
12	White, octagonal	53	50	1861	C	A steam fog-whistle on southern point of Cape, elevated about 40 feet above high water, sounds a blast of 10 seconds duration in each minute.	424

List of lights on the coasts, rivers, and

NOVA

No.	Name of light.	Place.	Latitude. North. ° ′ ″	Longitude. West. ° ′ ″	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
425	Stoddard Island.	On NW. point of island.	43 28 30	65 43 10	One	F.	Red	
426	Bon Portage Island.	On S. point	43 27 16	65 44 39	One	Rev.	Red	Every minute.
427	Seal Island	S. point ½ mile inland.	43 23 34	66 0 52	One	F.	White	
428	Pubnico Harbor.	Beach Point, E. side of entrance, 120 yards from low-water mark.	43 35 45	65 46 54	One	F.	White	
429	Argyle	On S. point of Whitehead Island, Yarmouth County.	43 39 40	65 52 4	One	F.	Red	
430	Tusket River	Big Fish Island, SW. point.	43 42 10	65 57 15	Two, horizontal, 24 feet apart.	F.	White	
431	Pease's Island.	On S. point, one of the Tusket Islands.	3 37 4	66 1 40	Two, 16ft. apart vertically.	R. F.	Red and white. Red	Each color visible 15 sec.; 45 sec. between flashes.
431a	Abbot Harbor.	On S. extremity of Abbot Island.	43 39 25	65 49 30	One	F.	White.	
432	Yarmouth or Cape Fourchu.	E. Cape, S. point	43 47 28	66 9 20	One	Int.	White.	Light 1½ min., dark ½ min.
432a	Green Cove	Or Maitland, on outer end of westerly breakwater.	43 59 5	66 9 30	One	F.	Red	
433	Bunker's Island.	On end of reef, off SW. point of island, E. side of entrance to Yarmouth Harbor.	43 48 30	66 8 45	One	F.	Red	

BAY OF

434	Cape St. Mary.	E. side of bay	44 5 20	66 12 40	One	Alt.	Red and white.	Every 30 sec.
435	Meteghan River.	At extreme end of breakwater.	44 13 43	66 8 12	One	F.	Green.	
436	Church Point.	E. side of St. Mary's Bay, Digby County.	44 19 55	66 7 35	One	F.	Red	

lakes of the Dominion of Canada—Continued.

SCOTIA—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
9	White, small, square tower.	22	.....	.....	C...	To guide vessels into the anchorage of Stoddard Harbor and Shag Harbor Sound.	425
12	White, square, wood...	46	28	1874	C...	For guiding vessels into Barrington, West Bay and Shag Harbor.	426
18	White, octagonal	98	60	1830	D, 2.	A fog-whistle near light-house sounds in each minute a blast of 5 seconds duration, and after an interval of 5 seconds another blast of 5 seconds.	427
8	White, square	28	20	1854	C...	Open westward of St. John's Island, bearing NE. by N., clears the ledge; in making harbor from any other direction, the light must be brought to the northward of ENE. before it can be steered for to avoid shoal spot off St. Ann's Point.	428
12	White, square, wood, with dwelling attached.	115	28	1874	C ...	For guiding vessels into Argyle Harbor.	429
12	White, square, wood...	50	23	1864	C...	Visible seaward; in windows each end of a dwelling house.	430
12	White, square, wood, with dwelling attached.	56	42	1879	C ..	Sea light, visible from all points of approach from southward; also through Schooner and Ellenwood Passages.	431
4		40			C ..	To mark channel between Old Man and Old Woman Rocks. Visible only between bearings W. by N. ½ N. and NW. by W.	
8	Lantern on a mast.....	40	28	1884	D...	Will be kept up from 1st April to 1st October each year.	431a
18	Vertical stripes, red and white, octagonal tower.	117	59	1839	C ...	Fog whistle on W. side sounds 10 seconds in every minute. An automatic whistle buoy has been placed in 13 fathoms water ½ mile W. from the Lurcher Shoal, which lies 15 miles WNW. from this light.	432
7	Mast, with white shed at base.	33	25	1884	D...	Will be kept up only from 15th April to 15th November, each year.	432a
10	The lantern on a dwelling house, built on a wooden pier.	27	.....	1874	C...	To guide vessels into harbor. Visible from southward, between NE. by N. and N. ½ E. Also over Stanwood's Beach when bearing from S. ½ E. to SE. ½ E., but can not be run for on those bearings, only entrance to harbor being through Yarmouth Sound and round Cape East. Fog-bell sounds at intervals of 15 seconds.	433

FUNDY.

17	White, octagonal	103	43	1868	C...	.....	434
6	Vertical red stripes on seaward side, lantern painted black.	23	21	1875	C...	Beacon for guiding vessels into river. Must be left on starboard hand and passed close aboard. Tide leaves breakwater one hour before low water.	435
10	White, square, wood...	36	20	1874	C...	For guarding against danger in the vicinity of Church Point.	436

* Lower. † Upper.

List of lights on the coasts, rivers, and

NOVA

BAY OF

No.	Name of light.	Place.	Latitude. North. ° ′ ″	Longitude. West. ° ′ ″	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
437	Sissiboo	S. side of entrance to river.	44 26 30	66 1 15	One	F...	White.	
438	Westport	Peter Island, entrance to Grand Passage.	44 15 30	66 20 20	Two, horizontal, 24 feet apart.	F...	White.	
439	Brier Island	NW. point	44 14 57	66 23 30	One	F...	White.	
440	Boar's Head	17 yards from edge of cliff.	44 24 16	66 18 0	One	Alt.	Red and white.	Every minute.
441	Point Prim or Digby Gut.	S. point of entrance to Annapolis Basin.	44 41 34	65 47 20	One	F...	White.	
441a	Digby Pier	At inner end of freight shed on pier.	44 37 40	65 45 6	One	F...	Red	
441b	Shafner's Point.	On N. side of Annapolis River.	44 42 40	65 37 8	One	F...	Red	
442	Port Williams or Marshall Cove.	S. shore	44 56 52	65 16 0	Two, vertical, 22 ft. apart.	F...	White	
442a	Port George	On outer end of E. pier.	45 0 25	65 9 25	One	F...	Red	
443	Margaretville.	On extremity of point, S. shore.	45 2 57	65 4 0	One	F...	Red	
444	Isle Haute	On highest point	45 14 55	65 0 45	One	Int.	White	40 seconds in every minute.
445	Blackrock	S. shore	45 10 10	64 56 0	One	F...	White	
446	Cape d'Or fog-whistle.	On extreme point opposite side of channel from Blackrock.						
446a	Advocate Harbor.	On S. side of entrance.	45 19 22	64 43 4	One	F...	Red	
447	Kingsport	On Oak Point pier.	45 9 30	64 21 45	One	F...	White	
448	Horton	On bluff, W. side of Avon River, near its mouth.	45 6 15	64 13 30	One	F...	White	
449	Walton Harbor.	Basin of Minas, Hants County.	45 14 0	64 0 45	One	F...	Red	
450	Burntcoat	Basin of Minas. NW. extremity of head S. shore.	45 18 40	63 48 30	One	F...	White	
450a	Maastown or Debert.	On eastern head at entrance to Moss Creek.	45 22 45	63 29 0	One	F...	Red	
450b	Little Dyke	On western head at entrance to Folly River.	45 22 40	63 33 15	One	F...	Red	
451	Spencer Point.	On N. shore at mouth of Great Village River.	45 23 30	63 37 0	One	F...	White	
451a	Portapique	On western head at entrance to Portapique River.	45 23 40	63 43 30	One	F...	Red	

lakes of the Dominion of Canada—Continued.

SCOTIA—Continued.

FUNDY—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
8	White, square, wood...	86	33	1870	C...	.....	437
10	White, square	40 each	15 each	1850	C...	Visible from the northward between the bearings of S. by W. and SSW., and from the southward between the bearings of NE. by E. and NNW. ¼ W.	438
13	White, octagonal	92	55	1809	C...	A steam fog-whistle on NW. of Brier Island, south side of light-house, sounds three blasts of 4 seconds duration, with intervals of 4 seconds between them, in each minute.	439
14	White, square	70	.....	1864	C...	On S. entrance to Petit Passage.....	440
13	Vertical red and white stripes, square tower.	76	22	1817	C...	Fog-whistle on Prim Point sounds 8 seconds in each minute.	441
6	Lantern on pole with brown freight shed at base.	38	29	1887	D...	Visible from NNE. round by W. to SSW. Length is 536 ft. from shore, and 350 ft. from outside of sunken crib.	441*a*
8	White, square, wood...	55	43	1885	D...	Indicates Goat Island Shoals.....	441*b*
10	White, square.....	92 70	22	1859	C...	Lantern on top of dwelling; lower light in bow window, visible from WSW. round N. to ENE.	442
7	White, square, wood...	25	21	1888	C...	Visible from all points seaward.....	442*a*
8	Horizontal white and black stripes, square.	30 27	22	1859	C...	Visible from WSW. round N. to ENE.	443
20	White, square, wood, dwelling attached, almost hidden by trees.	365	53	1878	C...	.....	444
12	White, square	45	35	1848	C...	Light on top of dwelling, visible from all points of approach.	445
...	.....	.....	.....	.....	.....	Sounds during thick weather for 6 seconds in every 30 seconds.	446
7	White, square, wood, with dwelling attached.	86	27	1884 moved 1888	D, 6.	.....	446*a*
8	Upper inclosed part white, open frame brown.	80	26	1878	C....	Visible from SW. ¼ W. round by E. to NW. by W. ¼ W.	447
15	White, square, wood, dwelling attached.	100	30	1851 rebuilt 1883	C....	.....	448
10	White, square, wood ...	60	20	1873	C....	.....	449
13	White, square, with lantern on dwelling..	75	35	1859	C....	On dwelling, visible from all points of approach.	450
6	Lantern on a mast.....	30	20	1882	D...	Visible from all points of approach. Kept lit during fishing season.	450*a*
6	Lantern on a mast.....	25	20	1882	D...	Visible from all points of approach. Kept lit during fishing season.	450*b*
11	In window of a building.	25	20	1863	C....	During navigation.....	451
6	Lantern on a mast.....	30	20	1882	D...	Visible from all points of approach. Kept lit during fishing season.	451*a*

List of lights on the coasts, rivers, and

NOVA

BAY OF

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative position.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
451b	Economy.....	On point of bar running out from N. side of entrance to Economy River.	45 22 45	63 54 56	One.....	F...	Red...	.....
452	Parrsboro or Partridge Island.	W. side of river...	45 23 0	64 19 0	One.....	F...	White	.....
452a	Cape Sharp....	On southern extremity of Cape.	45 21 55	64 23 40	One.....	F...	Red...	.....
453	Apple River...	On Cape Capston, on Hetty Point, N. entrance.	45 28 20	64 51 30	One.....	F...	White	.....

NEW BRUNS

BAY OF

454	Hillsborough Wharf.	Petitcodiac River.	45 55 15	64 37 45	One.....	F...	White	.....
455	Grindstone....	W. part of island.	45 43 13	64 37 25	One.....	F...	White	.....
456	Cape Enrage..	Pitch of cape.....	45 35 34	64 46 55	One.....	F...	White	.....
456a	St. Martin's Head.	On summit of head.	45 29 10	65 11 25	.....	.....	.....	.....
456b	Quaco Pier....	On outer end of E. breakwater pier.	45 21 20	65 31 55	One.....	F...	Red...	.....
457	Quaco, West Head.	On pitch of cape, St. Martin's.	45 19 30	65 32 10	One.....	Rev	White	20 seconds...
458	Cape Spencer.	Pitch of cape.....	45 12 30	65 54 0	One.....	Alt.	Red and white.	Every 45 sec..
459	Patridge Island.	Highest point of island, St. John Harbor.	45 14 20	66 3 20	One.....	F...	White	.....
460	Negro Point...	On end of government breakwater, W. entrance to port of St. John.	45 14 25	66 4 0	One.....	F...	Red...	.....
461	St John Harbor.	On pier on W. side of channel.	45 15 10	66 3 40	One.....	F...	White	.....
461a	Ried's Point..	On Prince William Station foot of St. James street, St. John City.	45 15 45	66 3 40	One.....	F...	Red and white.	.....

lakes of the Dominion of Canada—Continued.

SCOTIA—Continued.

FUNDY—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
5	Lantern on a mast.....	15	30	1882	D...	Visible from all points of approach. Kept lit during fishing season.	451b
9	White, square, with lantern on dwelling..	37	32	1852	C....	.....	452
10	White, square, wood, with dwelling attached.	60	34	1886	D...	.....	452a
12	White, oblong, with tower.	64	45	1870 rebuilt	C....	.....	453

WICK.

FUNDY—Continued.

5	Open frame.....	14	22	1875	C...	To guide vessels going up the river and to the coal and plaster wharves.	454
12	White, octagonal, wood	60	.....	1854	Q...	Visible from NE. by E. round by N. to E. by S. In thick weather a trumpet sounds 4 blasts in every minute.	455
15	White, square.....	120	23	1840	D, 4.	Visible between the bearings of NW. round by S. to NE. A steam fog-whistle, 150 feet NE. from the light-house, sounds 4 seconds in each minute.	456
....	.....	.....	.....	1885	.....	A fog-horn operated by compressed air sounds blasts of 14 seconds' duration with intervals of 46 seconds.	456a
6	White, square, wood..	20	21	1887	D...	Visible between W. by N. ¼ W. and NW.; and between N. ¼ E. and NE. by E. The deepest water in entering the inner harbor is close to the light.	456b
16	White, square, wood, dwelling attached. Fog building white with brown roof, wood.	110	49	1835 rebuilt 1883.	C...	General coast light to guide to St. Martin's Harbor. A black bell buoy off the reef in 14 fathoms, ¼ mile SSE. from light. Steam fog-horn 70 feet from light-house, gives blasts of 9 seconds with intervals of 30 seconds.	457
20	White, square, building with tower.	207	35	1873	C...	Visible between the bearings ESE. round by S. to WNW., Partridge Island light bearing by compass NW. by W. ¼ W. northerly, distant 6½ miles.	458
17	Vertical red and white stripes, octogonal, wooden with red iron lantern.	119	40	1791	D, 3.	In foggy weather a steam whistle sounds for 10 seconds every minute. A bell buoy near E. side of Partridge Island.	459
8	White with red lantern open framed, hexagonal tower, on circular stone foundation.	40	35	1878 re-established 1883.	D, 6.	.....	460
10	Vertical black and white stripes.	35	15	1828	D, 4.	.....	461
5	On a three branched lamp post.	42	21	1850	Gas	Shows red to seaward over an arc of 67½° from NE. to NNW., white on other bearings.	461a

List of lights on the coasts, rivers, and

NEW BRUNS

RIVER

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
462	Green Head...	.....	45 18 0	66 7 20	One.....	F...	White	.....
463	Sand Point....	Low shore, E. end of river.	45 22 0	66 11 0	One.....	F...	White	.....
463a	Flewelling's Landing.	Kennebeccasis River.	.....	.....	One.....	F...	Red...	.....
464	Belyea's Point.	On Nathaniel Belyea's Point, W. side of river.	45 22 35	66 12 45	One.....	F...	White	.....
464a	William's Landing.	Near outer end of public wharf.	.....	.....	One.....	F...	White	.....
465	Oak Point.....	Low land, W. side of river.	45 32 0	66 6 0	One.....	F...	White	.....
465a	Hatfield's Point.	W. side, near head Belle Isle Bay.	.....	.....	One.....	F...	White	.....
465b	Palmer's Landing.	On the outer end of public wharf.	.....	.....	One.....	F...	White	.....
466	Musquash Island.	Washadamoak Lake, Queen's County.	45 42 0	66 7 0	One.....	F...	White	.....
467	Hendry Farm.	Washadamoak Lake, Queen's County.	45 42 0	66 7 0	One.....	F...	White	.....
468	No Man's Friend.	E. side of river ...	45 47 0	66 7 30	One.....	F...	White	.....
468a	Jemseg	On S. side lower Jemseg entrance.	.....	.....	One.....	F...	Red...	.....
469	Oromocto Shoal.	Near wharf.....	45 53 0	66 27 0	One.....	F...	White	.....
470	Wilmot Bluff..	W. side of river...	45 56 0	66 30 0	One.....	F...	White	.....
471	Cox Point.....	Grand Lake	46 2 0	66 1 0	One.....	F...	White	.....
472	McMann's Point.	Newcastle, Grand Lake.	46 4 0	66 2 0	One.....	F...	White	.....
473	Robertson Point.	Grand Lake	45 53 0	66 13 0	One.....	F...	White	.....
474	Fanjoy Point..	Grand Lake	45 55 10	66 4 0	One.....	F...	White	.....

BAY OF

475	Musquash.....	E. side of entrance.	45 8 35	66 14 30	One.....	F...	Green seaward, white to harbor.	.....
476	Lepreau.....	On point.....	45 3 40	66 27 39	One.....	F...	White	.....

lakes of the Dominion of Canada—Continued.

WICK—Continued.

ST. JOHN.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
10	White	105	.....	1869	C		462
10	White	50	.....	1869	C		463
5	Lantern on a white mast.	25	.....	1885	.....	20 feet from front of wharf, shows from NE. round by E. to SW.	463*a*
11	White, square, wood	40	36	1882	D, 6.	To guide clear to Purdy's Shoal	464
10	Lantern on a mast	30	.....	1884	D, 6.	To guide through Long Reach	464*a*
10	White	50	.....	1869	C		465
10	Lantern on a mast, on a cribwork block.	35	20	1886	D	Visible from SW. round by W. and N. to E.	465*a*
5	Mast, with white shed at base.	37	25	1884	D	To guide through the channel of the Belle Isle Bay. Visible from SE. round by W. to N.	465*b*
10	Brown, open framework, lantern white.	26	.....	1875	C	In coming down the two lights to be kept in range until opposite NW. end of Hog Island, whence a southerly course to be kept to foot of Musquash Island. In going up, the two lights to be brought in range opposite NW. end of Hog Island, and kept in range until within ½ mile of the light on Hendry Farm.	466
10	Brown, open framework, lantern white.	30	.....	1875	C		467
10	White	5	.....	1869	C		468
3	Mast, with white shed at base on pier.	34	21	1884	D	Light shows from SW. round by W. to NE.	468*a*
10	White	54	.....	1869	C		469
10	White	104	.....	1869	C		470
10	White	20	.....	1869	C		471
10	White, square, wood	28	26	1876	C		472
10	White, square, wood	16	16	1873	C		473
10	White, square, wood	16	16	1873	C		474

FUNDY—Continued.

10	White, square, wood with dwelling attached.	112	40	1879	C	An automatic signal buoy moored in 30 fathoms, SW. by S. ½ S. from light, S. ½ W. from western head of Musquash, and WSW. from Partridge Island, lat. N. 45° 7′ 10″, lon. W. 66° 14′ 50″.	475
14	Striped horizontally red and white octagonal, wood, lantern, roof red. Fog-whistle building drab with brown roof. White dwelling near by.	80	48	1831 renewed 1884.	C	Visible from all points seaward. Fog-trumpet gives blasts of 5 seconds' duration, with intervals of 25 seconds between them. Should the trumpet get out of order a whistle will sound two blasts of 5 seconds' duration, with an interval of 5 seconds between, in every minute. Whistling buoy SSW., 1 mile from light, moored in 23 fathoms.	476

List of lights on the coasts, rivers, and

NEW BRUNS

BAY OF

No.	Name of light.	Place.	Latitude. North. ° ′ ″	Longitude. West. ° ′ ″	Number of lights and relative positions.	Character of light.	Color of light.	Interval or revolution of flash.
477	Drew's Head..	On W. side of Beaver Harbor, Charlotte County.	45 3 45	66 44 0	One.....	F...	White	.....
478	Pea Point.....	E. side of entrance to l'Etang Harbor.	45 2 20	66 48 40	One.....	F...	Green.	.....
479	Bliss Island...	West end of island, S. side of western entrance to Bliss Harbor.	45 1 15	66 51 0	One.....	F...	Red ..	.....
480	Letete Passage	On Mascabin Point	45 2 20	66 53 30	.....	.....	.....	.....
481	Midjic Bluff...	Passamaquoddy Bay, Charlotte County.	45 6 53	66 54 30	One.....	F...	White	.....
482	Port St. Andrews.	On sand reef at E. entrance.	45 3 45	67 0 50	One.....	F...	White	.....
483		N. point of entrance.	45 4 10	67 2 50	One.....	F...	White	.....
484	Spruce Point..	St. Croix River, Charlotte County.	45 10 0	67 11 0	One.....	F...	White	.....
485	Mark Point ...	St. Croix River, Charlotte County.	45 10 10	67 12 30	One.....	F...	White	.....
486	Head Harbor..	E. Quoddy Head, N. point of Campobello island.	44 57 30	66 53 52	One.....	F...	White	.....
487	Lubec Narrows	On Mulholland's Point, Campobello Island.	44 51 47	66 58 50	One.....	F...	White	.....
488	Southwest Wolf Island.	On SE. point of the island.	44 56 30	66 44 10	One.....	Rev.	White	Every 1½ minute.
489	Swallow Tail..	Near edge of high cliff, NE. part of Grand Manan.	44 45 48	64 44 2	One.....	F...	White	.....
489a	Long Eddy Point Fog-Whistle.	Extreme NW. head of Grand Manan.	.....	.....	.....	.....	.....	.....
490	Grand Harbor.	Grand Manan	44 40 2	66 45 5	One.....	F...	White	.....
491	Big Duck Island Fog-Horn.	S. end of island ...	44 41 5	66 41 40	.....	.....	.....	.....
492	Southwest Head.	Grand Manan.....	44 36 0	66 54 16	One.....	Rev.	Red and white.	3 red flashes, 40 sec. Eclipse 20 " 3 white flashes, 40 sec. Eclipse 20 " — Minutes 2

lakes of the Dominion of Canada—Continued.

WICK—Continued.

FUNDY—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of Illuminating apparatus.	Remarks.	No.
10	White, square wood ...	45	36	1875	C ...	Seen at all points between eastern and western heads of harbor.	477
10	White, square, wood, with dwelling attached.	51	31	1878	C ...	Visible from E. round by S. to N..... An iron spindle, painted black, on the Grey Mare Ledge, marks the W. side of entrance.	478
12	White, square, wood...	45	30	1871	C ...	.....	479
....	.....	.....	.....	.....	.....	A fog-trumpet sounds blasts of 7 seconds, with intervals of 30 seconds between them.	480
15	White, square, wood, lantern brown.	130	29	1876	C ...	A bar extends ENE. from light-house, and vessels require to keep off a distance of 260 yards to clear it at low water.	481
10	White, square, wood, on a framed pier.	40	10	1875	C ...	To guide to all ports in inner bay, and to vessels going up the river St. Croix from Letete Passage or West Quoddy. There is only a depth of 4 feet of water on the NW. extension of the reef towards mainland.	482
10	White, octagonal	42	22	1833	C ...	Visible between the bearings of NW. by N. and SE. by S.	483
10	White, square	32	28	1876	C .	The course from Spruce Point to ballast ground is E. by S. ½ S., distance 2 miles. From Spruce Point to Mark Point, WNW., distance 2 miles. A vessel after leaving Doucet Island, to clear the reef, should steer N. until the Spruce Point light bears NW. by W., and thence take a WNW. course.	484
10	White, square	32	28	1876	C .		485
13	White, with red cross, octagonal, wooden tower, with dwelling attached. Iron lantern, red.	64	34	1829	D, 4.	Fog-trumpet sounds blasts of 8 seconds' duration, with intervals of 35 seconds between them.	486
13	White, octagonal, wood.	60	44	1885	D...	.....	487
16	White, square, wood ...	111	35	1871	C...	Lantern on dwelling, visible from all points of approach.	488
18	White, octagonal, wood with white dwelling and outbuildings near.	148	50	1860	D, 4.	Visible between the bearings of SW. round by S. to NW.	489
....	White, wooden buildings, dark roof.	.....	.....	.....	.....	A steam fog-whistle 80 feet above high water, sounds blasts of 4 seconds' duration, with intervals of 16 seconds between them.	489a
11	White, square, wood, dwelling attached.	40	32	1879	C...	Visible from all points seaward.....	490
....	.....	.....	.....	.....	.....	Fog-horn sounds blasts of 6 seconds' duration with intervals of 35 seconds.	491
24	White, square, wood, dwelling attached.	200	43	1880	C ...	.....	492

List of lights on the coasts, rivers, and

NEW BRUNS

BAY OF

No.	Name of light.	Place.	Latitude. North. ° ′ ″	Longitude. West. ° ′ ″	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
493	Gannet Rock..	S.of Grand Manan.	44 30 38	66 47 0	One.....	Int .	White.	Light, 45 sec. Eclipse 5½ " Flash, 4½ " Eclipse, 5½ " In every 60 "
494	Machias Seal Island.	Near middle of island.	44 30 7	67 6 13	One.....	Fl...	White.	.....
495		64 yards SE. from other.	.....	.....	One.....	F...	White.	.....

MANI

496	Lake Winnipeg Lightship.	Mouth of Red River.	50 25 10	96 48 0	One.....	F...	White.	.....
497	Swampy Island.	East end of island, near mouth of Beren's River, Lake Winnipeg.	52 18 0	97 23 0	One.....	F...	White.	.....

BRITISH

498	Cape Beale....	SE. point of entrance to Barclay Sound, on W. coast of Vancouver Island.	48 47 48	125 12 52	One.....	Rev.	White.	Every 30 sec..
499	Race Rocks...	In Straits of De Fuca.	48 17 45	123 32 0	One.....	Fl ..	White.	Every 10 sec..
500	Fisgard.....	On a rock, at western entrance to Esquimalt Harbor.	48 26 0	123 27 15	One.....	F...	See remarks.	.....
501	Beren's Island.	Western entrance to Victoria Harbor.	48 25 24	125 24 0	One.....	F...	Blue..	.....
501a	Discovery Island.	On eastern extremity of island in the Strait of Haro.	48 25 20	123 13 50	One.....	F...	White.	.....

lakes of the Dominion of Canada—Continued.

WICK—Continued.

FUNDY—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
12	Vertical black and white stripes, octagonal.	66	41	1831	D., 4.	A fog-gun is fired once an hour..... Dangerous rocks extend 4 miles eastward of the light-house.	493
15	White.....	54	36	1832	D., 2.	In range will lead 4½ miles S. of Murr Ledges.	494
14	White, octgonal, wood,	66	53	1832 Rebuilt 1875	D., 3.	A fog-whistle sounds 5 seconds in each ½ minute.	495

TOBA.

10	White, with small tower amidships.	24	.....	1880	D..6	.....	496
11	White, square, wood, with dwelling attached.	34	33	1884	D., 6	Visible from all points of approach...	497

COLUMBIA.

19	White, square, stone, with dwelling attached.	164	35	1874	C...	Visible from east round by N. to W. by N. ½ N. The light should not be brought to bear to the northward of E. ½ N., as there is foul ground to the northward of the N. limit of the light. Entrance to Sound should not be attempted without local knowledge or a pilot.	498
18	Alternate black and white horizontal bands, circular, stone, dwelling attached.	118	105	1861	D., 2.	A 12-inch steam fog-whistle sounds blasts of 5 seconds, with intervals of 1 minute and 12 seconds.	499
12	White, circular, brick, red brick dwelling attached.	67	56	1861	D., 4.	Shows white in Fairway between bearings N. ½ W. and NW. by W. ½ W. and clears all offlying dangers. Shows red from NW. by W. ½ W. to S. ½ E. in Esquimalt harbor, and to vessels bound for Victoria or Esquimalt from the eastward after rounding Trial Island, it will indicate their distance from shore. If bound to Esquimalt a WSW. course will lead safe outside of Brotchy's Ledge until the light changes from red to white when it may be steered for, not before. A white ray of light is shown to the westward of S. ½ E. into Esquimalt harbor.	500
7	White, square, wood, dwelling attached. Bell tower on seaward side.	44	30	1876	C...	Light bears from Brotchy Ledge buoy NNW. ½ W. A fog-bell rung by hand will answer vessels blowing their whistles.	501
15	White, square, wood, dwelling attached.	91	47	1886	D., 5	Visible from SE. ½ S. round by SW. and N. to NE. by N. ½ N.	[illegible]

List of lights on the coasts, rivers, and

BRITISH

No.	Name of light.	Place.	Latitude.	Longitude.	Number of lights and relative positions.	Character of light.	Color of light.	Interval of revolution or flash.
			North. ° ′ ″	*West.* ° ′ ″				
502	Plumper or Active Pass.	On Georgina Point, Mayne Island, Straits of Georgia.	48 52 25	123 17 50	One.....	F...	White.	.....
502a	Saturna Island	On E. Point.....	48 47 0	123 3 2	One.....	Rev.	White.	30 seconds....
503	Fraser River..	On SW. end of Sturgeon Bank, N. Sand Heads.	49 5 0	123 16 0	One.....	F...	White.	.....
504	Point Atkinson.	NW. entrance to English Bay and Burrard Inlet.	49 19 42	123 15 54	One.....	Rev.	White.	Every minute.
505	Entrance Island.	Nanaimo, Straits of Georgia.	49 12 50	123 48 45	One.....	F...	White.	.....

lakes of the Dominion of Canada—Continued.

COLUMBIA—Continued.

Miles seen in clear weather.	Color or any peculiarity of light-house.	Height in feet of light above high-water mark.	Height in feet of building from base to vane.	Year lighted.	Character of illuminating apparatus.	Remarks.	No.
15	White, square, wood, with dwelling attached. Belfry white, square, wood.	55	42	1885	D., 6.	Coast light, and indicates the eastern entrance to Active Pass. Visible from W. ¼ S. round by N. to NE. ¼ N. Fog-bell, 40 feet from light, sounds a stroke every 15 seconds.	502
18	White, square, wood, with dwelling attached. Iron lantern red.	140	60	1888	C...	Visible from NE. ¼ N. round by W. to SE. by E. ¼ E. Light should not be approached from N. or W. within 1½ miles.	502a
12	White, hexagonal, wooden tower on iron pile foundation.	52	49	1886 light-house established 1884	D., 3.	From the light No. 1 buoy bears S. 6° W., 8 cables. Fog-bell is attached to the tower.	503
15	White, square, wood, dwelling attached.	119	49	1875	C...	Visible from the entrance to Burrard Inlet to an E. by N. ¼ N. bearing. Should not be brought to bear to westward of N. by vessels in the Straits, as this bearing will only lead clear of Sturgeon Bank, off Fraser River. Fog-horn to be established here.	504
14	White, square, wood, with dwelling attached.	65	50	1876	C...	To indicate entrance to Departure Bay and Nanaimo Harbor, as well as for the general purpose of navigation. Visible all around the horizon.	505

INDEX TO CANADIAN LIGHTS.

N. B.—The names by which the lights are most generally known are printed in common or lower case letters, and the names of the places near which the lights are situated in *italics*.

A.

	No.
Abbot Harbor	431*a*
Aconi Point	358
Active Pass	502
Advocate Harbor	446*a*
Agate Island	252
Alberton	331
Alexander Point	272
Algernon Rock	59
Allumette Lake, Lower	136*b*
Amet Island	335
Amherstburg	209
Amherst Island	12
Amour Point	3
Ange Gardien	66*e*, 66*f*
Anglais, Point aux	129
Annapolis Basin	441–441*b*
Anticosti	23–26
Apple River	453
Argyle	429
Arichat	372
Arnprior Island	135*a*
Ash Island	99
Atkinson Point	504
Avon River	448
Aylmer Island	134*b*

B.

Baccaro	422
Baddeck Harbor	353
Bagot's Bluff	24
Bague, Isle à la	105
Barclay Sound	503
Barra Straits	355
Barrett Ledge Gas Buoy	49*b*
Barrington East Bay Lightship	423
Basin of Minas	447–452
Baskin's Wharf	134*c*, 134*d*
Batchewana Bay	250
Bathurst	268
Batiscan	79–80
Battery Point	406
Battle Island	253
Bauld, Cape	4*b*
Bay de Chaleurs	14–17, 259–270
Bayfield	341
Bay du Vin Island	287*b*
Bay Forteau	3
Bay St. Paul	55
Beach Point	428
Beale, Cape	498
Bear, Cape	313
Beauharnois	121
Beaujeu Bank Gas Buoys	59*a*, 59*b*
Beaver Harbor, N. S.	389*a*
Beaver Harbor, N. B.	477
Beaver Island, S. E. coast of N. S.	389
Beaver Island, St. Peter's Inlet	355*d*
Becquets, St. Pierre les	78
Bedeque Bay	303, 304
Bellechasse	64
Belledune Point, Little	266*a*
Belle Isle	1, 2
Belleville	169*a*
Belleville, St. Anne de	124–127
Belyea Point	464
Beren's Island	501
Beren's River	497
Berry Head	384
Betty Island	399

	No.
Bicquette Island	39
Big Arrow Rock	371
Big Bras d'Or	352*a*
Big Duck Island, N. B.	491
Big Fish Island	439
Big Otter Creek	199
Big Tignish	332, 332*a*
Birch Point	273
Bird Island	351
Bird Rocks	10
Black Point	112
Black Rock	445
Black Rock Point	357
Bliss Island	479
Blockhouse Point	308
Bloody Island	100
Boar's Head	440
Bois Blanc	209–211
Bon Portage Island	426
Bouche, Harbor au	342–343
Brandy Pots	50
Bras d'Or Lake	352–356
Bridgeport Harbor	361
Brier Island	439
Brig Point	399
Brooklyn Pier	412
Brown's Point	161
Bruce Port	200
Brulé, Cap	61, 62*a*
Buckom's Point	134*e*
Buctouche	295*a*, 296
Bunker's Island	433
Burlington Bay	188
Burntcoat	450
Burnt Island	159
Burrard Inlet	504
Burwell, Port	199
Bustard Rocks	236–237
Byng Inlet	235

C.

Cadieux, Point à	128
Calf Pasture Shoal	175
Campbell Island	138
Campbellton	259, 260
Campobello Island	486, 487
Canso Cape	381
Canso Harbor	378
Canso, North	344
Cap à l'Aigle	52*a*
Cap aux Oies	54
Cap Brulé	61–62*a*
Cape Bauld	4*b*
Cape Beale	498
Cape Bear	312
Cape Capston	453
Cape Charles	75
Cape Chatte	31
Cape Despair	17
Cape d'Or Fog Whistle	446
Cape Egmont	302*a*
Cape Enrage	456
Cape Fourchu	432
Cape George	356
Cape la Ronde	369
Cape Magdeleine, River St. Lawrence	84, 85
Cape Magdalen, Gulf	28
Cape Norman	5
Cape North	348
Cape Race	7*a*

	No.
Cape Ray	7
Cape Robert	246a
Cape Roseway	420
Cape Rosier	22
Cape Rouge	61–62a
Cape Sable	424
Cape St. George	340
Cape St. Lawrence	348a
Cape St. Mary	434
Cape Sharp	452a
Cape Spencer	458
Capston, Cape	453
Caraquet	269
Cardigan Bay	316
Cardigan River	317
Carey's Beach	352a
Caribou Island, Lake Superior	250a
Caribou Island, Straits of Northumberland, N. S.	336
Carleton Point	14
Caron's Point, Ottawa R	124
Carrousel Island	30
Caron's Point, N. B	268
Carter Island	417
Cascumpec	331
Cassie's Point	297
Catfish Creek	200
Champlain	82–83
Channel Patch Gas Buoy	57a
Chantry Island	219
Charles Cape	75
Charlottetown	308
Château de Silva	114
Chateauguay	120
Chats Lake	135–136
Chebucto Head	397
Chedabucto Bay	377, 377a
Chênes, Lake des	134a
Cherry Island	145
Chester	402, 402a
Cheticamp	347
Chicoutimi	43–48
Christian Island	231
Church Point Buctouche	295a
Church Point, St. Mary's Bay, N. S.	436
Ciboux Island	351
Citrouille Point	81
Claire Point	122, 123
Clapperton Island	245
Clark, Point	216
Clifton	268a
Cobequid Bay	451
Cobourg	177, 177a
Coffin Island	411
Colborne, Port	192, 193
Colchester Reef	207
Cole Shoal	152
Collingwood	230, 230a
Contrecœur Traverse	102
Conway Inlet	330
Corbay Point	250
Cornwall Canal	150
Coteau Landing	142
Coudres, Isle aux	54b
Coulonge, Lake	136a
Country Harbor	385
Cove Head	325
Cove Island	226
Cow Bay	362a
Cox Point	471
Crab Island	279
Cranberry Head	359a
Cranberry Island	381
Crane Island	60
Crapaud	306
Credit, Port	186
Creighton's Head	374
Cross Island	405
Croucher's Island	401a
Crow Harbor	377a
Cutler Island	378

D.

Dalhousie, N. B	262–265
Dalhousie, Port, Ont	189–190
Darlington	180
DeBert	450a
Deep River Islet	137
De Fuca, Straits of	499
De Monts, Point	33
Deseronto	168a
Despair, Cape	17
Devil Island	394
Digby Gut	441
Digby Pier	441a
Discovery Island	501a
Dixon's Point	296
Dog Island	367c
Dorval	122
Dover, Port	196
Drake, Outer	166
Drew's Head	477
Du Chêne Wharf	299
Duck Island, Great	224

E.

East Beaver Island	389
East End Anticosti	23
East End, Long Point	197
East End, Sable Island	379
East Ironbound Island	402
East Point, P. E. I	319
East Quoddy Head	496
East, Souris	318
Eboulements, Les	54a
Economy	451
Eddy, Point	376
Edward Island	255
Egg Island, N. S	392
Egg Island, Ont	172
Egg Island, Que	32
Egmont, Cape	302a
Elm Tree Point	267
English Bay	504
Enrage, Cape	436
Entrance Island, B. C	505
Entry Island, Magdalens	11
Escuminac	292
Esprit Island, St	367
Esquimalt Harbor	500
Etang du Nord	13

F.

False Ducks	166
Fame Point	27
Fanjoy Point	474
Father Point	37
Fisgard	500
Fish Island	329, 329a
Flat Point, C. B	360
Flat Rock, Gaspé	18a
Flewelling's Landing	463a
Flint Island	362
Foreland, North	197, 198
Fort Coulonge	136a
Forteau Bay	3
Fort Point, La Have River	406
Fort Point, Liverpool Bay	413
Fort William	257, 258
Fort William, Ottawa River	136a
Fourchu, Cape	432
Fox Island, Lake Simcoe	191
Fox Island, Miramichi River	288, 289
Fraser River Lightship	503
Fraser's Point	354a
Freestone Islet	355b
Frenchman's Bay	183
French River	236–239

G.

Gage Point	164
Gananoque Narrows	155
Gannet Rock	493
Gaspé	19–21
George, Cape	356
George Island	396
Georgetown	316–316a
Georgia Straits	
Georgina Point	
Gereaux Island	

	No.
Gibraltar Point	184
Gin Rock	232
Glasgow Point	367*d*
Glengarry	149
Gloucester Bay	232
Goderich	214, 215
Gooseberry Island	355*e*
Goose Cape, Que	54
Goose Lake, N. B	271
Gore Bay	246
Grace, Isle de	94
Grand Digue	367*b*
Grande Rivière du Chêne	73
Grand Harbor	490
Grand Isle, Kamouraska	52
Grand Lake, N. B	471–474
Grand Manan	489–492
Grand Narrows	355
Grand Passage	488
Grand Rustico	326–326*a*
Grand River	16*a*
Grant's Beach	286
Gravenhurst Narrows	191*a*
Great Chêne River	73
Great Duck Island	224
Great Manitoulin Island	223–225
Green Cove	432*a*
Green Head, River St. John	462
Green Island, Guysboro' County, N. S	385
Green Island, Lunenburg, N. S	401
Green Island, Que	49
Green Island, Richmond County, N. S	370
Greenly Island	4
Green Shoal, Ottawa River	134
Gregory Island	355*b*
Grenadier Island	153
Grenville Harbor	327
Griffith Island	226
Grimes' Shoal	351
Grindstone Island, N. B	455
Grindstone Island, Magdalens	13
Groudines	76, 77
Grosse Isle Gas Buoy	60*b*
Grosse Point	141
Guion Island	366
Gull Island, Ont	178
Gull Rock, N. S	418
Guysborough Harbor	377

H.

Halfway Point, north of	96
Halifax	394–397
Hamilton Island	148
Harbor au Bouche	342, 343
Harbor Island	391
Hare Island Reef Gas Buoy	49*a*
Harper's Point	270*a*
Hart Island	378
Hatfield's Point	465*a*
Haute, Isle	444
Hawkesbury, Port	375
Hawley's Island	136*c*
Hay Island	281, 282
Head Harbor	486
Head of Wilson's Channel	248*b*
Heath Point	23
Hebert, Port	416
Hendry Farm	467
Herring Cove	396*a*
Heron Island	266
Hetty Point	453
Hillsborough Bay	307–310
Hillsborough Wharf	454
Hobson's Nose	404
Holly Point	386
Hood, Port	345
Hope Island	231*a*
Horseshoe Bar Lightship	290
Horton	448
Hubbard's Cove	401*b*

I.

Indian Point, Buctouche, N. B	295*a*
Indian Point, Bedeque Bay, P. E. I	304
Ingonish	349, 349*a*
Ironbound Island, East	462
Ironbound Island, West	407
Isaac Harbor	386
Island of Orleans	63, 65, 66
Isle à la Bague	105
Isle à la Pierre	93
Isle àux Coudres	54*b*
Isle aux Noix	97
Isle aux Prunes	103
Ilse aux Raisins	92
Isle aux Vaches	108
Isle de Grace	94
Isle Haut	444
Isle of Coves	222
Isle Perrot	126
Isle St. Therèse	106–108

J.

Jackstraw Shoal	156
Janet Cove	246
Jeddore Rock	393
Jemseg	468*a*
Jerome Point	367*c*
Jerseyman Island	373
Jourimain	300

K.

Kaministiquia	257, 258
Kamouraska	52
Kidston Island	353
Killarney	241, 242
Kincardine	217, 218
King Head	339*a*
Kingsport	447
Kingston	162
Kingsville	206*c*
Knapp's Point	161
Knight's Point, Que	138–140
Knight's Point, P. E. I	331

L.

Lachine	117
Lacolle	98
Lahave	408
Lake des Chênes	134*a*
Lake Muskoka	191*a*
Lake of the Woods	256*a*
Lake St. Francis	138
Lake St. Louis	118–121
Lake St. Peter	86–92
Lake Simcoe	191
Lake Winnipeg	496–497
Lamb Island	254
Lancaster	146–147
L'Ange, Gardien	66*a*, 66*f*
Langlais Point	72
Lark Islet	42
La Ronde, Cape	369
Lavaltrie	101
Lead Mines	116
Leamington	206
Lennox Passage	367*b*, 367*d*
L'Etang Harbor	478
Letite Passage	480
Lepreau	476
Les Eboulements	54*a*
Lime Kiln Crossing	211*a*
Lindoe Island	154
Lingan Head	361
Liscomb	388
Little Belledune	266*a*
Little Channel	330
Little Current	244
Little Dike	450*b*
Little Hope	415
Little Métis Point	85
Little Narrows	354
Little Rustico	324
Little Shippegan	270*a*, 270*b*
Little Stave Island	185
Liverpool Bay	411–413
London, New	327, 328
Lonely Island	249

	No.
Long Eddy Point	489*a*
Long Pilgrims	51
Long Point	197–198
L'Orignal	131
Lotbinière	72
Louisburg	365
Lower Allumette Lake	136*b*
Lower Narrows	136*d*
Lower Traverse Lightship	56
Low Point	360
Lubec Narrows	487
Lurcher Shoal	432
Lyal Island	221*b*

M.

Mabou	345*a*, 345*b*
Machias Seal Island	494, 495
Magog	111
McKenzie Point, C. B.	352
McKenzie Wharf, Ont.	227
McKie's Point	143
McKillop's Point	144
McMann's Point	472
McNeill's Beach	35*b*
MacNutt Island	420
McQuestion's Point	137*a*
McTavish Point	132
Madame Island, C. B.	371, 372
Madame Island, St. Lawrence, Gas Buoy	64*a*
Madeleine Cape	84, 85
Magdalen Cape	28
Magdalen Islands	10–13
Mahone Bay	402, 404
Main-à-Dieu	364
Maitland	432*a*
Maitland, Port	195
Malpeque Bay	329, 329*a*
Manicouagan Lightship	36
Manitowaning	242*a*
Maquereau Point	16
Marache Point	372
Margaree	346
Margaret's Island Bank Gas Buoy	60*b*
Margaret's Bay	400, 401*a*
Margaret's Tail Gas Buoy	60*b*
Margaretsville	413
Marjorie's Isle	356*e*
Marshall Cove	442
Mark Point	435
Martin Head	456
Martin River	29
Mascabin Point	480
Masstown	450*a*
Matane	34
Matane Pier	34*a*
Mayne Island	502
Meaford	228
Meagher Beach	395
Medway Head	410
Memphremagog, Lake	111–116
Merigomish	339*a*
Metcghan River	435
Métis Point, Little	35
Michael's Point	223
Michipicoten Island	251
Middle Island, Lake Erie	205
Middle Island, Miramichi River	287
Midjic Bluff	481
Miminegash, Big	301*a*
Minas Basin	447–452
Mink Island	234
Miramichi	283–291
Miscou Gully	270*a*, 270*b*
Miscou Island	271, 273
Missisauga Straits	225
Missisauga Island	246*c*
Moffatt's Wharf	260
Mohawk Island	194
Molson's Island	115
Money Point	348
Montee du Lac	61–62*a*
Montgomery Island	264
Montmagny	60*a*
Montmorenci	66*e*, 66*f*
Morris Island	135
Morrison's Island	136*c*
Moser Island	409
Mouton, Port	414
Mulholland's Point	487*a*
Mullin's Point	334
Murray Bay	52*b*
Murray Harbor	313, 314
Muskoka Lake	191*a*
Musquash Harbor	475
Musquash Island	466

N.

Nanamio Harbor	505
Negro Island, N. S	421
Negro Point, N. B.	460
Neguac	280
Newcastle Grand Lake	472
Newcastle, Miramichi	287*a*
New London	327, 328
Niagara	190*a*
Nine-Mile Point	164
No Man's Friend	466
Nord, Etang du	13
Norman, Cape	5
North Canso	344
North, Cape	348
North Foreland	197, 198
North of Halfway Point	96
North Point, P. E. I.	301
North Rustico	326, 326*a*
North Sister Rock	248*a*
North Tracadie	276
Nottawasaga Island	229

O.

Oak Point, Miramichi Bay, N. B.	284
Oak Point, Restigouche River, N. B	261, 262
Oak Point, St. John River, N. B	465
Oak Point, N. S	447
Oakville	187
O'Hara Point	19
Or, Cape d'	446
Origuaux, Point aux	53
Orleans Channel	66*a*
Oromocto Shoal	469
Orwell Harbor	309
Oshawa	181
Ouelle, River	53
Quetique Island	368
Outer Drake	166
Owen Sound	227, 227*a*

P.

Palmer's Landing	465*b*
Panmure Head	315
Parrsboro'	452
Parry Sound	234
Partridge Island, Lake Huron	242
Partridge Island, N. S	452
Partridge Island, St. John Harbor	459
Paspebiac	15
Passamaquoddy Bay	480–483
Pea Point	478
Peart Point	377
Pease's Island	481
Peggy Point	400
Pelée	203, 204
Penetanguishene	233
Percé	18
Perrot, Isle	125
Peter, Point	18*a*
Peter's Rock	178
Peter's Bay	369
Peter's Island	488
Petitcodiac River	454
Petit de Grat	371
Petit Rocher	267
Pickering	182
Pictou	337–339
Pigeon Island	165
Pilgrim Shoal Gas Buoy	50*a*, 51, 58
Pilgrims, Long	
Pillar Stone	

	No.
Piper's Cove	355a
Plateau	18a
Platon Point	70
Plumper Pass	502
Point à Cadieux	128
Point Aconi	358
Point Au our	3
Point Atkinson	504
Point aux Anglais	129
Point Citrouille	81
Point aux Pins	249
Point aux Orignaux	53
Point aux Trembles	109
Point Claire	122, 123
Point Clark	216
Point des Monts	33
Point du Lac	88
Point Langlais	72
Point O'Hara	9
Point Peter, Gaspé, Que	18a
Point Peter, Ontario	170
Point Pleasant	168
Point Prim, Digby Gut, N. S	441
Point Prim, Hillsborough Bay, P. E. I.	310
Point Rich	6
Point St. Anne, Gulf	30a
Point St. John	65
Point St. Lawrence	66
Point Tupper	375
Pokemouche	274, 275
Pokesudie	270
Pomquet Island	341
Pope's Harbor	391
Porphyry Point	255
Port Arthur	258a
Portage Island	283
Portage Island, Bon	426
Portaupique	451a
Port Bruce	200
Port Burwell	199
Port Colborne	192
Port Credit	186
Port Dalhousie	189, 190
Port Dover	196
Port Elgin	218a
Port George	442a
Port Hebert	416
Port Hood	345
Port Hope	170
Port Lewis	144
Port Maitland	195
Port Medway	410
Port Mouton	414
Portneuf, above Quebec	69
Portneuf, Saguenay County	38
Port St. Andrews	482, 483
Port St. Francis	86, 87
Port Stanley	201
Port Williams	442
Prescott	151
Presqu' Isle, Lake Ontario	173–175
Presqu' Isle, Owen Sound	227
Preston Beach	291
Prim, Point, N. S	441
Prim, Point, P. E. I	310
Prince Edward Island	301–332
Prunes, Isle aux	103
Pubnico Harbor	428
Pugwash	333

Q.

	No.
Quaco	456b, 457
Quaker Island	402a
Quarantine Gas Buoy	60b
Quebec Harbor, Lake Superior	252
Quebec Point, River St. Lawrence	160
Queen's Wharf, Toronto	185, 185a
Quinté Carrying Place	176
Quoddy Head, East	486

R.

	No.
Race, Cape	7a
Race Rocks	499
Rainy River	258c
Raisins, Isle aux	92
Ray, Cape	7
Red Horse Rock	158
Red Island Lightship	40
Red Islet	41
Red River	496
Red Rock, Parry Sound	234
Red Rock Point, Killarney	241
Reed's Point	461a
Repentigny	104
Restigouche River	259–264
Richelieu	71
Richelieu River	96–100
Richibucto	298–595
Richmond Bay	329, 329a
Rich, Point	6
Rimouski	37
River Ouelle	58
Rivière du Chêne	73
Rivière du Loup	49c
Robert Cape	246a
Robertson Point	473
Rondeau Harbor	202
Ronde, Cape la	369
Roseway, Cape	420
Rosier, Cape	22
Rouge, Cap	61–62a
Rugged Island Harbor	418
Rustico	324–326a

S.

	No.
Sable Cape	424
Sable Island	379, 380
Saguenay	43–48
St. Andrew Point	316, 316a
St. Andrews, Port	482, 483
St. Anne de Bellevue	125, 127
St. Anne Point, Gulf	30a
St. Ann Harbor, C. B	350
St. Antoine	67
St. Croix, Que	68
St. Croix River, N. B	484, 485
St. Emélie	74
St. Esprit Island	367
Ste. Famille	66a, 66b
St. Francis	63
St. Francis, Port	86, 87
St. Francis River	91a
St. George, Cape	340
St. John Harbor, N. B	459–461a
St. John, Point, Que	65
St. Lawrence, Point	66
St. Louis, Lake	118, 119
St. Martin's	456a–457
St. Mary's Cape, N. S	424
St. Mary's Bay, N. S	436
St. Mary's River, Ont	249
St. Paul, Bay	55
St. Paul's Island	8, 9
St. Peter's	320, 321
St. Peter's Bay, C. B	367a
St. Peter's Inlet	355b–356
St. Peter's Island, Hillsboro' Bay	307
St. Peter's Lake	86–93
St. Pierre les Lake	78
St. Pierre, Orleans Channel	66c, 66d
St. Pierre les Becquets	78
St. Placide	130
St. Roch Lightships	56, 57
St. Thérèse, Isle	106–108
St. Thomas de Montmagny	60a
St. Valentine	97
Salmon Point, Ont	171
Salt Point	174
Salutation Head	355
Sambro	398
Sand Heads, Fraser River	502
Sand Point, Guysboro' County	376
Sand Point, St. John River	463
Sand Spit, Shelburne Harbor	419
Sandy Beach Point Lightship	30
Sandy Island, P. E. I	331
Sandy's Point	355a
Saturna Island	502a
Saugeen	219–221a

	No.
Savage Harbor	322–322*a*
Scatterie	362
Scotch Bonnet	172
Sea Cow Head	305
Seal Island, SE. coast of N. S.	427
Seal Island, Lennox Passage	367*c*
Sea Wolf Island	346
Seven Islands	30
Shafner's Point	441*b*
Shaftsbury	244
Sharp, Cape	452*a*
Shediac	298, 299
Sheet Harbor Passage	389*b*
Sheet Rock	390
Shelburne Harbor	419, 420
Sheldrake Island	285
Sherbrooke Tower	395
Shingle Point	416
Ship Harbor	375
Shipley's Head	398*a*
Shippegan	270*a*, 272
Shoal Point	248*c*
Simcoe Island	164
Sissiboo	437
Sister Rock, North	248*a*
Snake Island	163
Sorel	95
Souris, East	318
Southampton Harbor	220, 221
South Bay Point	167
S. Point Anticosti	24
South River	248*a*
South Rustico	324
South Tracadie	277
South-East Bay	248*d*
South-West Head, Grand Manan	492
S. W. Point, Anticosti	25
S. W. Wolf Island	488
Spanish Bay	360
Spanish River Mills	246*b*
Spectacle Island, N. S.	414
Spectacle Shoal, Ont	157
Spencer Cape	458
Spencer Point	451
Spence's Island	136*b*
Spruce Point	484
Stanley Port	201
Stoddard Island	425
Stonehouse Point	149
Stone Island	93
Stone Pillar	58
Straits of De Fuca	499
Straits of Georgia	502–505
Strawberry Island	243
Sulphur Island	247
Summerside	303
Swallow Tail	489
Swampy Island	497
Sydney Bar	350

T.

Tabusintac	279
Telegraph Island	169
Terrence Bay	398*a*
Thames River	212, 213
Thessalon River	248
Thornbury	228*a*
Three Top Island	383
Thunder Cape	256
Thunder Bay	256–258*a*
Tignish	332–332*a*
Tobermory	225*a*
Torbay	384
Toronto	184–185*a*
Tracadie, N. B	276, 277
Tracadie, P. E. I	323
Trap Rock	363
Traverse, Contrecœur	102
Traverse Lightships	56, 57
Tupper, Point	375
Tusket, River	430

U.

Uniacke Point	355
Upper Traverse Lightship	57

V.

Vaches, Isle aux	108
Valentine, St	97
Valleyfield	141
Verchères	103
Victoria Harbor	501
Victoria Island, Ottawa River	135
Victoria Island, Lake Superior	258*b*
Vin Island, Bay du	287*b*

W.

Wadleigh's Point	113
Wallace Harbor	334
Walton Harbor	449
Washadamoak Lake	466, 467
Way Shoal	133
Wedge Island	387
Weller's Bay	176
Westaways	316*a*
West End, Long Point	198
West End, Sable Island	380
Westhaver Island	403
West Ironbound Island	407
West Point, Anticosti	26
West Point, P. E. I.	302
Westport	438
Whiskey Island	232*a*
Whitby	182
Whitehead Cape, Percé	18
Whitehead Island, Guysboro' County	382
Whitehead Island, Yarmouth County	429
White Island Reef Gas Buoy	49*a*
Whycocomagh	354*a*
Wicked Point	171
William Island	389
William's Landing	464*a*
Williams, Port	442
Wilmot Bluff	470
Wilson's Channel, Head of	248*b*
Windmill Point	151
Winnipeg Lake	496, 497
Witch Shoal	111
Wolf Island, river St. Lawrence	160, 161
Wolf Island, SW., Bay of Fundy	488
Wood Island	311

Y.

Yarmouth	432

INDEX.

This index is made out in the order in which the interrogatories were propounded in the circular, viz: (1) Pilotage; (2) lights; (3) light dues; (4) tonnage dues; (5) quarantine; (6) miscellaneous. These form general heads under which the references by continents are given, viz: Africa, America, Asia, Australasia, Europe, and Polynesia.

PILOTAGE.

Page.

Africa:
- British Africa:
  - Cape Town ... 3
  - Mauritius ... 19
  - Natal ... 15
  - Port Elizabeth ... 5
  - St. Helena ... 25
  - Sierra Leone ... 22
- Egypt ... 26
- French Africa:
  - Algeria ... 34
  - Reunion ... 34
  - Liberia ... 35
  - Madagascar ... 37
  - Morocco ... 36
- Portuguese Africa:
  - Cape Verde Islands ... 39
  - Madeira ... 40
  - St. Paul de Loanda ... 41
- Zanzibar ... 44

America:
- British North America:
  - Bay of Quinte ... 66
  - British Columbia ... 76–78
  - Canadian pilotage act ... 45, 53
  - Chatham ... 67
  - Fort Erie ... 68
  - Gaspé Basin ... 75, 76
  - Georgian Bay ... 69
  - Hamilton ... 69
  - Kingston ... 70
  - Montreal ... 73
  - Morrisburg ... 64
  - Port Stanley and St. Thomas ... 70
  - Prescott ... 71
  - Prince Edward Island ... 81
  - St. John's, N. F. ... 82, 83
  - Toronto ... 71
  - Yarmouth ... 82
- Mexico:
  - Guaymas ... 91
  - Mazatlan ... 92
  - Vera Cruz ... 95
- Central America:
  - Costa Rica ... 96
  - Salvador ... 100
- South America:
  - Argentine Republic ... 101
  - Brazil:
    - Bahia ... 112
    - Para ... 114
    - Pernambuco ... 115
    - Rio Grand do Sul ... 118
  - British Guiana ... 121
  - Chili ... 124
    - Coquimbo ... 133
  - Dutch Guiana ... 135
  - Peru ... 137
  - Colombia:
    - Carthagena ... 137
    - Colon ... 139
    - Panama ... 141

Page.

America—Continued.
- South America—Continued.
  - Venezuela:
    - La Guayra ... 142
    - Maracaibo ... 143
    - Puerto Cabello ... 144
- West Indies:
  - British West Indies:
    - Anguilla ... 159
    - Antigua ... 156
    - Bahamas ... 146
    - Barbadoes ... 150
    - Dominica ... 159
    - Montserrat ... 160
    - Nevis ... 161
    - Tobago ... 167
    - Trinidad ... 162
    - Turk's Island ... 168–178
  - Danish West Indies:
    - Frederiksted ... 180
    - St. Thomas ... 178
    - Santa Cruz ... 180
  - Dutch West Indies: Curaçoa ... 181
  - French West Indies:
    - Guadaloupe ... 183
    - Martinique ... 185
  - San Domingo: Puerto Plata ... 206
  - Spanish West Indies:
    - Caibarien ... 194
    - Cardenas ... 197
    - Cienfuegos ... 198
    - Guantanamo ... 203
    - Havana ... 187
    - Manzanilla ... 204
    - Sagua le Grando ... 199
    - Santiago de Cuba ... 241
    - Santa Cruz del Sud ... 205

Asia—
- Asiatic Turkey: Beirut ... 208
- Palestine: Jaffa ... 211
- British Asia:
  - Bombay ... 212
  - Calcutta ... 215
  - Ceylon ... 219
  - Hong Kong ... 222
- China ... 224, 225
  - Amoy ... 228
  - Foochow ... 232
  - Newchwang ... 230
- Cochin China: Saigon ... 236
- Japan ... 237
  - Nagasaki ... 260
- Siam ... 260
- Spanish Asia:
  - Philippine Islands ... 261

Australasia:
- Newcastle ... 279
- New South Wales ... 269
- New Zealand ... 281
- Tasmania ... 290
- Victoria ... 288–290

Europe:
- Belgium ... 288

Page.

Europe—Continued.
Ghent 295
Denmark: Copenhagen 297
France:
Havre 298
Nice 299
Marseilles 300
Rouen 304
Germany:
Dusseldorf 310
Hamburg 312
Kiel 315
Lubeck 316
Greece 317
Holland:
Amsterdam 318
Rotterdam 319
Italy 320
Catania 323
Genoa 325
Messina 329
Naples 330
Venice 333

Page.

Europe—Continued.
Portugal: The Azores 338
Russia:
Odessa 339
Reval 340
St. Petersburg 341
Spain:
Barcelona 342
Cadiz 343
Grao de Valencia 344
Carthagena 345
Malaga 348
Turkey: Constantinople 349
United Kingdom 351-392
Bristol 419
Leith 420
Liverpool 426
British Possessions:
Gibraltar 458
Malta 460
Polynesia:
Fiji 462, 463
Gilbert Islands 463
Hawaii 464

LIGHTS.

[General characteristics of, etc.]

Africa:
British Africa:
Cape Town 3
Mauritius 19
Natal 15
Port Elizabeth 5
Sierra Leone 22
Egypt 26, 27
French Africa, Reunion 35
Liberia 35
Madagascar 37
Morocco 36
Portuguese Africa:
Angola 44
St. Paul de Loando 42
Cape Verde Islands 39
Madeira 40
Zanzibar 44

America:
British North America:
Canadian lights and fog signals ...647-719
Index to Canadian lights, etc 720
Bay of Quinte 66
British Columbia 79
Chatham 67
Fort Erie 68
Gaspé Basin 75
Georgian Bay 69
Hamilton 69
Kingston 70
Morrisburg 65
Newfoundland 85-89
Port Stanley and St. Thomas 70
Prescott 71
Prince Edward Island 82
St. John's, N. F 83
Toronto 72
Yarmouth 82
Mexico, Guaymas 91
Central America:
Costa Rica 96
Salvador 100
South America:
Argentine Republic 102
Brazil:
Bahia 112
Para 114
Pernambuco 116
Rio Grande do Sul 120
British Guiana 122
Chili:
Coquimbo 133
Talcahuano 134
Dutch Guiana 136
Colombia:
Carthagena 138
Colon 139
Panama 142

America—Continued.
South America—Continued.
Venezuela:
La Guayra 143
Maracaibo 143
Puerto Cabello 144
West Indies:
British West Indies:
Anguilla 139
Antigua 156
Bahamas 148
Barbadoes 152
Tobago 168
Trinidad 162
Turk's Island 168
Danish West Indies:
Fredericksted 180
St. Thomas 179
Santa Cruz 180
Dutch West Indies, Curaçoa 182
French West Indies:
Guadaloupe 183
Martinique 186
San Domingo, Puerto Plata 206
Spanish West Indies:
Caibarien 194
Cardenas 197
Cienfuegos 198
Havana 189
Guantanamo 203
Manzanillo 205
Sagua la Grandes 200
Santiago de Cuba 202

Asia:
Asiatic Turkey:
Beirut 209
Jaffa 211
British Asia:
British India 217-219
Ceylon 220, 221
Hong-Kong 222
China 225
Amoy 228
Foochow 233
Newchwang 231
Ningpo 231
Cochin China, Saigon 236
Japan 237-251
Siam, Bankok 261
Spanish Asia, Philippine and Caroline Islands 264, 265

Australasia:
New South Wales 271, 272
Newcastle 280
New Zealand 282
Tasmania 290

Europe—
Belgium 293, 492
Ghent 295

Page.

Europe—Continued.
Denmark 502–504
Little Belt 506
Great Belt 508
The Sound 509
Baltic Sea 511
France 492
Beacons and buoys 537
Havre 298
Nice 299
Marseilles 302
Germany:
North Sea 498–502
River Elbe 500
Little Belt 506
Baltic Entrance 507
Baltic Sea 512
Dusseldorf 311
Hamburg 312
Kiel 315
Lubeck 316
Greece 317
Holland 493–458
Rotterdam 319
Italy 321
Catania 323
Genoa 326
Messina 329
Palermo 331
Venice 333
Norway 527–535
Beacons and buoys 536
Iceland and White Sea 535

Page.

Europe—Continued.
Portugal, the Azores 338
Russia:
Baltic Sea 514
Gulf of Finland 516
Gulf of Bothnia 518
Odessa 339
Reval 340
Spain:
Barcelona 342
Grao de Valencia 344
Carthagena 346
Malaga 348
Sweden 504
The Sound 510
Gulf of Bothnia 519
Baltic Sea 522
Buoys and beacons 536
Turkey 349
United Kingdom:
Lights in British Islands 538–640
Index to lights in British Islands .. 641–644
Bristol 419
Leith 420
Liverpool 426
British Possessions:
Gibraltar 458
Malta 460
Polynesia—
Fiji 462
Gilbert Islands 463
Hawaii 493

LIGHT DUES.

Africa:
British Africa:
Cape Town 3
Mauritius 19, 22
Port Elizabeth 5
St. Helena 25
Sierra Leone 22
Egypt 26
French Africa:
Algeria 34
Reunion 35
Liberia 35
Madagascar 37
Morocco 36
Portuguese Africa:
Cape Verde Islands 39
Madeira 40
St. Paul de Loando 42
Zanzibar 44
America:
British North America:
Bay of Quinte 66
British Columbia 78
Chatham 67
Fort Erie 68
Gaspé Basin 75
Georgian Bay 69
Hamilton 69
Kingston 70
Morrisburg 65
Port Stanley and St. Thomas 70
Prescott 71
Prince Edward Island 82
St. John's, N. F. 83
Yarmouth 82
Mexico:
Guaymas 91
Mazatlan 93
Vera Cruz 95
Central America:
Costa Rica 96
Salvador 100
South America:
Argentine Republic 102
Brazil:
Bahia 112
Para 114
Pernambuco 115
Rio Grande do Sul 120
British Guiana 122
Chili 125
Coquimbo 133

America—Continued.
South America—Continued.
Dutch Guiana 136
Peru 137
Colombia:
Carthagena 138
Colon 140
Panama 142
Venezuela:
La Guayra 142
Maracaibo 143
Porto Cabello 144
West Indies:
British West Indies:
Anguilla 159
Antigua 156
Bahamas 148
Barbadoes 152
Trinidad 162
Turk's Island 168
Danish West Indies:
Frederickstad 180
Santa Cruz 180
St. Thomas 178
Dutch West Indies 182
French West Indies:
Guadaloupe 183
Martinique 186
San Domingo: Puerto Plata 206
Spanish West Indies:
Caibarien 194
Cardenas 197
Cienfuegos 198
Havana 189
Guantanamo 203
Manzanillo 205
Sagua la Grande 200
Santa Cruz del Sud 206
Santiago de Cuba 202
Asia:
Asiatic Turkey:
Beirut 208
Jaffa 211
British Asia:
Bombay 213
Calcutta 215
Ceylon 219
Hong Kong 222
China 224
Amoy 225
Foochow 227
Newchwang 230

	Page.
Asia—Continued.	
Cochin China: Saigon	236
Japan	237
Nagasaki	260
Siam	261
Spanish Asia: Philippine Islands	262
Australasia:	
New South Wales	270
Newcastle	279
New Zealand	281
Tasmania	290
Europe:	
Belgium	295
Ghent	298
Denmark, Copenhagen	297
France:	
Havre	298
Nice	299
Marseilles	302
Rouen	304
Germany:	
Dusseldorf	311
Hamburg	312
Riel	315
Lubeck	316
Greece	317
Holland:	
Amsterdam	318
Rotterdam	319
Italy	321
Catania	323
Genoa	326
Europe—Continued.	
Italy—Continued.	
Naples	330
Palermo	331
Venice	333
Portugal, The Azores	338
Russia:	
Odessa	339
Reval	340
St. Petersburg	341
Spain:	
Barcelona	342
Cadiz	343
Carthagena	345
Grao de Valencia	344
Malaga	348
Turkey, Constantinople	349
United Kingdom	392–395
Bristol	419
Leith	420
Liverpool	426
Liverpool, table of dues for lights, buoys, and beacons levied on vessels entering or clearing at Liverpool, together with list of lights	427–435
British Possessions:	
Gibraltar	458
Malta	460
Polynesia:	
Fiji	462
Gilbert Islands	463
Hawaii	464

TONNAGE DUES.

Africa—	
British Africa:	
Capetown	4
Mauritius	20
Port Elizabeth	5
St. Helena	25
Sierra Leone	22
Egypt	28
French Africa: Réunion	35
Liberia	36
Madagascar	37
Morocco	36
Portuguese Africa:	
Cade Verde Islands	40
Madeira	41
St. Paul de Loanda	42
Zanzibar	44
America—	
British North America:	
British Columbia	78
Chatham	67
Fort Erie	68
Gaspé Basin	75
Georgian Bay	69
Kingston	70
Morrisburg	65
Port Stanley and St. Thomas	70
Prescott	71
Prince Edward Island	81
St. John's N. F	83, 90
Toronto	72
Yarmouth	82
Mexico:	
Guaymas	91
Mazatlan	93
Vera Cruz	95
Central America:	
Costa Rica	97
Salvador	100
South America—	
Argentine Republic	108
Brazil:	
Bahia	113
Pará	115
Pernambuco	118
Rio Grande do Sul	120
British Guiana	122
Chili	125
Coquimbo	134
Talcahuano	135
Peru	137
America—Continued.	
South America—Continued.	
Colombia:	
Carthagena	139
Colon	139
Panama	142
Dutch Guiana	136
Venezula:	
La Guayra	143
Maracaibo	143
Puerto Cabello	144
West Indies—	
British West Indies:	
Anguilla	159
Antigua	157
Bahamas	149
Barbadoes	152
Dominica	160
Montserrat	160
Trinidad	163
Turk's Island	169
Danish West Indies:	
Frederiksted	180
St. Thomas	179
Santa Cruz	181
Dutch West Indies, Curaçoa	182
French West Indies:	
Guadeloupe	183
Martinique	186
San Domingo: Puerto Plata	207
Spanish West Indies:	
Caibarien	194
Cardenas	197
Cienfuegos	198
Havana	187
Guantanamo	203
Manzanillo	205
Sagua la Grande	200
Santa Cruz del Sul	206
Santiago de Cuba	202
Asia—	
Asiatic Turkey:	
Beirut	209
Jaffa	211
British Asia:	
Bombay	213
Calcutta	215
Ceylon	221
Hong-Kong	222
China	224
Amoy	229
Foo Chow	232
Newchwang	231

	Page.
Asia—Continued.	
Cochin China: Saigon	236
Japan	252
Nagasaki	260
Siam	261
Spanish Asia: Philippine Islands	262
Australasia—	
New South Wales	272
Newcastle	280
New Zealand	282
Tasmania	291
Victoria	283, 290
Europe—	
Belgium	294
Ghent	295
Denmark: Copenhagen	297
France:	
Havre	298
Nice	299
Marseilles	302
Rouen	304
Germany:	
Dusseldorf	311
Hamburg	312
Kiel	315
Lubeck	317
Greece	317
Holland:	
Amsterdam	318
Rotterdam	320
Europe—Continued.	
Italy	321
Catania	324
Genoa	326
Naples	330
Palermo	331
Venice	333
Portugal: The Azores	338
Russia:	
Odessa	339
Reval	340
St. Petersburg	341
Spain:	
Barcelona	342, 343
Cadiz	343
Grao de Valencia	345
Carthagena	346
Malaga	348
Sweden	483
Turkey: Constantinople	349
United Kingdom	395–412
Bristol	419
Leith	421
Liverpool	426
British Possessions:	
Gibraltar	458
Malta	461
Polynesia:	
Fiji	462
Gilbert Islands	464
Hawaii	464

QUARANTINE RULES AND REGULATIONS.

Africa:	
British Africa:	
Cape Colony	6–14
Cape Town	4
Mauritius	20
Natal	17
Port Elizabeth	6
St. Helena	25
Sierra Leone	23
Egypt	28
French Africa:	
Algeria	34
Reunion	35
Liberia	36
Madagascar	37, 38
Portuguese Africa:	
Cape Verde Islands	40
Madeira	41
St. Paul de Loanda	42
Zanzibar	44
America:	
British North America:	
Bay of Quinte	67
British Columbia	78
Chatham	67
Dominion of Canada	61–64
Gaspé Basin	76
Georgian Bay	69
Hamilton	69
Kingston	70
Morrisburg	66
Port Stanley and St. Thomas	70
Prescott	71
Prince Edward Island	81
St. John's, N. F.	83
Toronto	72
Yarmouth	82
Mexico:	
Guaymas	91
Mazatlan	94
Vera Cruz	96
Central America:	
Costa Rica	97–99
Salvador	100
South America:	
Argentine Republic	103, 104
Brazil:	
Bahia	114
Para	115
Pernambuco	118
Rio Grande de Sul	121
British Guiana	123
Chili	125
Coquimbo	134
Talcahuano	135
America—Continued.	
South America—Continued.	
Colombia:	
Carthagena	139
Colon	139
Panama	142
Dutch Guiana	136
Peru	187
Venezuela:	
La Guayra	143
Maracabo	144
Puerto Cabello	145
West Indies:	
British West Indies:	
Anguilla	152–156, 159
Antigua	152–156
Bahamas	149
Barbadoes	152
Dominica	152–156
Leeward Islands	152–156
Montserrat	160
Nevis	162
Trinidad	163–167
Turk's Island	169
Danish West Indies:	
Fredericksted	180
St. Thomas	179
Santa Cruz	181
Dutch West Indies: Curaçoa	182
French West Indies:	
Guadeloupe	185
Martinique	186
San Domingo: Puerto Plata	207
Spanish West Indies:	
Caibarien	194–197
Cardenas	197
Cienfuegos	198
Havana	189–193
Guantanamo	203
Manzanillo	205
Sagua la Grande	200
Santa Cruz del Sud	206
Santiago de Cuba	202
Asia:	
Asiatic Turkey:	
Beirut	209
Jaffa	211
British Asia:	
Bombay	214
Calcutta	215
Ceylon	221
Hongkong	222
China:	
Amoy	223
Canton	224
Foochow	225

Page.

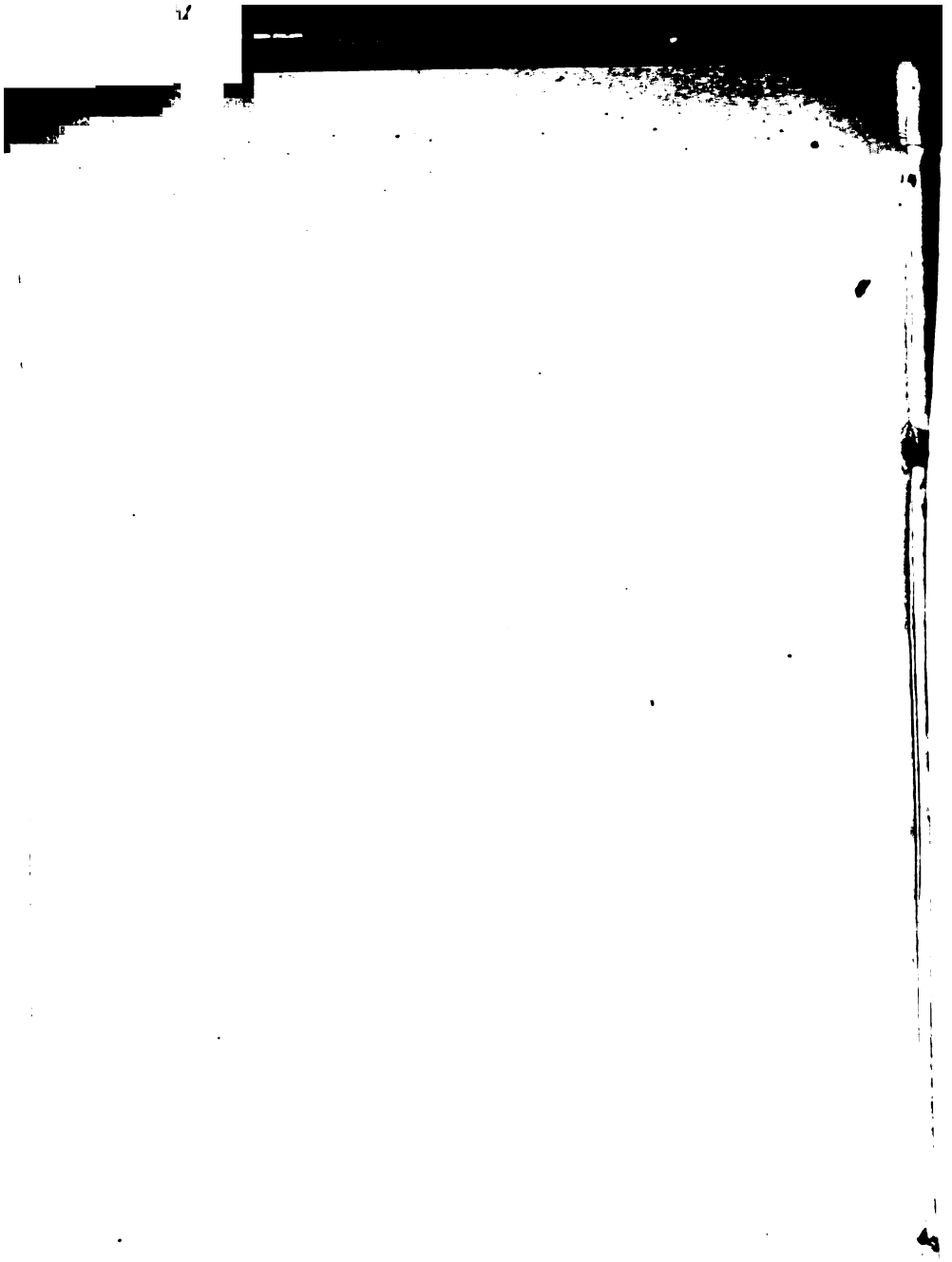
Asia—Continued.
China—Continued.
Newchwang ... 231
Ningpo ... 232
Cochin China: Saigon ... 237
Japan ... 252–259
Siam ... 261
Spanish Asia: Philippine Islands ... 262
Australasia:
New South Wales ... 272–279
Newcastle ... 280
New Zealand ... 283
Tasmania ... 291
Europe:
Belgium ... 294
Ghent ... 295
Denmark: Copenhagen ... 297
France:
Havre ... 298
Nice ... 300
Marseilles ... 303
Rouen ... 304–308
Germany:
Dusseldorf ... 311
Hamburg ... 313
Lubeck ... 317
Greece ... 318
Holland:
Amsterdam ... 318
Rotterdam ... 320

Page.

Europe—Continued.
Italy ... 322
Catania ... 325
Genoa ... 327
Messina ... 329
Naples ... 330
Palermo ... 332
Venice ... 333–338
Portugal: The Azores ... 339
Russia:
Odessa ... 339
Reval ... 340
St. Petersburg ... 341
Spain:
Barcelona ... 342
Cadiz ... 343
Grao de Valencia ... 345
Carthagena ... 346
Turkey ... 350
Constantinople ... 350
United Kingdom ... 412–415
Bristol ... 419
Leith ... 421
Liverpool ... 426
British Possessions:
Gibraltar ... 459
Malta ... 461
Polynesia:
Fiji ... 462
Gilbert Islands ... 464
Hawaii ... 464

MISCELLANEOUS.

Fog signals on Canadian and Newfoundland coasts ... 90
Harbors and coasts of New South Wales ... 267
Harbor dues:
Africa:
Natal ... 15–17
Mauritius ... 21
America:
British North America:
Montreal ... 73
Quebec ... 74
Ports between Montreal and Quebec ... 74
St. John's N. F. ... 90
South America:
Argentine Republic ... 108
Brazil, Bahia ... 113
Chile, Coquimbo ... 134
Colombia, Colon ... 140
West Indies:
Nevis ... 161
Havana ... 188, 189
Asia, Bombay ... 213
Australasia:
New South Wales ... 270
Victoria ... 283–288
Life saving service of Turkey ... 350
Port charges and regulations:
Argentine Republic ... 105–112
Belgium ... 489
Chili ... 125–133
Cuba, Havana ... 190–193
Denmark ... 485–487
France ... 489, 490
Rouen ... 309

Port charges and regulations—Continued.
Germany ... 490, 491
Holland ... 488
Italy ... 327
Norway ... 482
Russia ... 487, 488
Finland ... 487
Sweden ... 483–485
United Kingdom:
Bristol ... 415–417
Mersey docks ... 435–454
Sailing directions (British admiralty) ... 644–646
Sanitary dues at Nice ... 299
Sanitary authority of Liverpool ... 454

Sea tables:
1. Converting knots into miles ... 465
2. Set of the tides along the south coast of England ... 465
3. The tidal stream of the east coast of Scotland and England ... 468
4. Oil on rough seas ... 469
5. Finding the difference of longitude from the departure by middle latitude sailing ... 470
6. Navigable distances in nautical miles between some of the principal ports of the globe ... 471
7. Guidance of masters and seamen when using the mortar and rocket apparatus for saving life ... 475
8. Weather indications ... 476
9. Regulations for preventing collisions at sea ... 477
Suez Canal, regulations for navigating ... 28–34